



VOICE OF THE DIABETIC

A SUPPORT AND INFORMATION NETWORK

The Diabetics Division of The National Federation of the Blind

Volume 4, No. 1

Winter Edition

Page 1

Inside This Issue

From the Editor	1
A Definition of Blindness	2
by Kenneth Jernigan	
Partially Sighted, Really Blind	3
by Catherine Horn Randall	
Questions to Ask Your Doctor	3
Concerning Your Sight Loss	
Letter From an Ophthalmologist	3
What A Wonderful World	4
by Royanne R. Hollins	
Do You Know a Blind Person?	4
How I Went Blind...And Then What	5
by Ed Bryant	
Check Signs of Diabetes	6
Ask Dr. James	7
by Ronald James, M.D.	
What is Diabetic Retinopathy?	7
by Timothy Holekamp, M.D.	
Visionary Video Technology	9
Diabetes and Your Eyes	10
As Years Go By	11
by Dolores Olsen	
Beating Diabetes	11
by Arnold Schechter	
Eating Well Even More Vital To	12
Diabetics	
by Ellen Creager	
Blindness: A Matter of Perspective	13
by Barbara Walker	
My "Inlook" Brightened	13
by Denise J. Bradley	
Recipe Corner	14
Good Morning Americans	14
by Paul Harvey	
Drawing Up Insulin When You're	16
Blind Is No Big Deal	
by Betty Walker	
Self Management for the Blind	17
by Ed Bryant	
Documentation Is Needed for	17
Insurance	
What You Always Wanted to Know	18
But Didn't Know Where to Ask	
(Resource List)	
Tidbits and Humor	20

From The Editor

The Diabetics Division of the National Federation of the Blind (NFB) is a support and information network. We reach out and give support in many ways. If a diabetic is experiencing or will experience a chronic complication, we can put he/she in touch with an individual who has been down the same road.

Voice of the Diabetic is the backbone of our support network. Its growth rate has been prolific! It has been published for three years and the circulation is more than 35,000. *The Voice* features personal stories and practical guidance by blind diabetics and medical professionals, as well as medical news, a question and answer column by a physician, a resource section and a recipe corner.



This edition of *Voice of the Diabetic* contains pertinent data concerning blindness. Our organization, the National Federation of the Blind (NFB), with more than 50,000 members, is the largest group of blind citizens in the world and has unlimited information available for anyone interested. We prove daily that with training and opportunity, blindness does not have to be the great tragedy that it is often thought to be.

Diabetes is a leading cause of blindness, and the Diabetics Division of NFB has a special interest in blindness and diabetes.

It usually takes 15 years or more before noticeable eye complications develop due to diabetic retinopathy. When people lose enough vision so their eyesight does not allow them to

do things, like reading, drawing up insulin, etc., without using some alternative technique, they are, in reality, blind. Please read the article "A Definition of Blindness" in this publication for a thorough explanation of blindness.

Most diabetics who go blind have good sight for years before beginning to lose vision. Usually there is fear, frustration, anger and uncertainty about what will happen next. The National Federation of the Blind has helped thousands of blind people and is ready, willing and able to help thousands more. For just a few of the things that the NFB does, please refer to the section entitled "Do You Know a Blind Person?" in this publication.

Most of this edition deals with sight loss and blindness, but we realize that diabetes is an insidious disease and causes many other complications. We cover all aspects of diabetes as it is essential that people with the disease be well educated. For example, it is important that Type II non-insulin dependent diabetics realize that they are at risk of developing complications. In this edition, the article entitled "Beating Diabetes" has this statement: "The types and proportions of foods eaten by a Type II diabetic can greatly affect his or her already high risk of developing complications."



Unfortunately, many Type II diabetics don't think they will develop major side effects because they don't take insulin. Often, the person who is diagnosed as a Type II diabetic has had the disease for years without medical attention, and

sometimes chronic complications develop.

Because of this, many Type II diabetics go blind due to the disease.

Of course, it is important for the Type I insulin dependent diabetic to watch what he/she eats, but this is also extremely important for the Type II non-insulin dependent diabetic. Diabetics can lead full and productive lives by exercising and keeping their diabetes in good control.

Have a good day and smile, it is going to be a great year!



Voice of the Diabetic is a national publication of the Diabetics Division of the National Federation of the Blind. It is read by those interested in all aspects of blindness and diabetes. We show diabetics that they have options regardless of the ramifications they may have had. We have a positive philosophy and know that positive attitudes are contagious!

News items, address changes and other correspondence should be sent to the editor.

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A Definition of Blindness

by Kenneth Jernigan



Kenneth Jernigan, Executive Director, National Federation of the Blind and editor of the *Braille Monitor*, explains blindness in an easy to understand language.

Before we can talk intelligently about the problems of blindness or the potentialities of blind people, we must have a workable definition of blindness. Most of us are likely familiar with the generally accepted legal definition: visual acuity of not greater than 20/200 in the better eye with correction or a field not subtending an angle greater than 20 degrees. But this is not really a satisfactory definition. It is, rather, a way of recognizing in medical and measurable terms something which must be defined not medically or physically but functionally.

Putting to one side for a moment the medical terminology, what is blindness? Once I asked a group of high school students this question, and one of them replied — apparently believing that he was making a rather obvious statement — that person is blind if he "can't see." When the laughter subsided, I asked the student if he really meant what he said. He replied that he did. I asked him whether he would consider a person blind who could see light but who could not see objects — a person who would bump into things unless he used a cane, a dog, or some other travel aid and who would, if he depended solely on the use of his eye-sight, walk directly into a telephone pole or fire plug. After some little hesitation, the student said that he would consider such a person to be blind. I agreed with him and then went on to point out the obvious — that he literally did not mean that the definition of blindness was to be unable to see.

I next told this student of a man I had known who had "normal" (20/20) visual acuity in both eyes but who had such an extreme case of sensitivity to light that he literally could not keep his eyes open at all. The slightest amount of light caused such excruciating pain that the only way he could open his eyes was by prying them open with his fingers. Nevertheless, this person, despite the excruciating pain he felt while doing it, could read the eye chart without diffi-

culty. The readings showed that he had "normal sight." This individual applied to the local Welfare Department for Public Assistance to the Blind and was duly examined by their ophthalmologist. The question I put to the student was this: "If you had been the ophthalmologist, would you have granted the aid or not?"

His answer was, "Yes."

"Remember," I told him, "under the law you are forbidden to give aid to any person who is not actually blind. Would you still have granted the assistance?" The student said that he would. Again, I agreed with him, but I pointed out that, far from his first facetious statement, what he was saying was this: It is possible for one to have "perfect sight" and still in the physical, literal sense of the word be blind.

I then put a final question to the student. I asked him whether if a sighted person were put into a vault which was absolutely dark so that he could see nothing whatever, it would be accurate to refer to that sighted person as a blind man. After some hesitation and equivocation the student said, "No." For a third time I agreed with him. Then I asked him to examine what we had established:

1. To be blind does not mean that one cannot see. (Here again I must interrupt to say that I am not speaking in spiritual or figurative terms but in the most literal sense of the word.)

2. It is possible for an individual to have "perfect sight" and yet be physically and literally blind.

3. It is possible for an individual not to be able to see at all and still be a sighted person.

What, then, in light of these seeming contradictions is the definition of blindness? In my way of thinking it is this: One is blind to the extent that he must devise alternative techniques to do efficiently those things which he would do with sight if he had normal vision. An individual may properly be said to be "blind" or a "blind person" when he has to devise so many alternative techniques — that is, if he is to function efficiently — that his pattern of daily living is substantially altered. It will be observed that I say *alternative* not *substitute* techniques, for the word *substitute* connotes inferiority, and the alternative technique employed by the blind person need not be inferior to visual techniques. In fact, some of them are superior. The usually accepted legal definition of blindness already given (that is, visual acuity of less than 20/200 with correction or a field of less than 20 degrees) is simply one medical way of measuring and recognizing that anyone with better vision than the amount mentioned in the definition will (although he may have to devise some alternative techniques) likely not have to devise so many such techniques as to alter substantially his patterns of daily living.

On the other hand, anyone with less vision than that mentioned in the legal definition will usually (I emphasize

the word *usually*, for such is not always the case) need to devise so many such alternative techniques as to alter quite substantially his patterns of daily living.

It may be of some interest to apply this standard to the three cases already discussed:

First, what of the person who has light perception but sees little or nothing else? In at least one situation he can function as a sighted person. If, before going to bed, he wished to know whether the lights are out in his home, he can simply walk through the house and "see." If he did not have light perception, he would have to use some alternative technique — touch the bulb, tell by the position of the switch, have some sighted person give him the information, or devise some other method. However, this person is still quite properly referred to as a blind person. This one visual technique which he uses is such a small part of his overall pattern of daily living as to be negligible in the total picture. The patterns of his daily living are substantially altered. In the main, he employs alternative techniques to do those things which he would do with sight if he had normal vision — that is, he does if he functions efficiently.

Next, let us consider the person who has normal visual acuity but cannot hold his eyes open because of his sensitivity to light. He must devise alternative techniques to do anything which he would do with sight if he had normal vision. He is quite properly considered to be a "blind person."

Finally, what of the sighted person who is put into a vault which has no light? Even though he can see nothing at all, he is still quite properly considered to be a "sighted person." He uses the same techniques that any other sighted person would use in a similar situation. There are no visual techniques which can be used in such circumstances. In fact, if a blind person found himself in such a situation, he might very well have a variety of techniques to use.

I repeat that, in my opinion, blindness can best be defined not physically or medically but functionally or sociologically. The alternative techniques which must be learned are the same for those born blind as for those who become blind as adults. They are quite similar (or should be) for those who are "partially sighted" and yet are blind in the terms of the usually accepted legal definition. In other words, I believe that the complex distinctions which are often made between those who have partial sight and those who are totally blind, between those who have been blind from childhood and those who have become blind as adults are largely meaningless. In fact, they are often harmful since they place the wrong emphasis on blindness and its problems. Perhaps the greatest danger in the field of work for the blind today is the tendency to be hypnotized by jargon.

What Is The National Federation of the Blind?

The National Federation of the Blind is the largest membership organization of blind people in the nation, having chapters in every state and approximately 50,000 individual members. It is the blind speaking for themselves. The National Federation of the Blind seeks to integrate the blind into society so that they are seen as normal, participating citizens — as people you would want to know, to hire, to work with, associate in clubs and recreation.

We seek to show the public that we are just normal people who cannot see — not helpless and dependent, not blessed with special powers and gifts. We help the newly blinded learn that life can still be good. We show blind children that they can have a meaningful future. With proper training and skills, the blind can take a normal part in society — education, a job, a home, a family, normal recreation (camping, bowling, water skiing), and participation in community affairs.

We help blind persons find jobs — and the confidence to get and keep those jobs. Many willing, capable blind people have never had a job. Seventy percent of the blind are unemployed. Many of the rest are underemployed.

Our work is in the best interest of every American — our work to reduce blindness from a tragedy to a mere nuisance, our work to help the public accept the blind as normal people, our work to see that blindness does not mean isolation and dreadful loneliness.

How Can I Help?

You can inform yourself about blindness and help inform others. You can write for our literature, and you can get to know blind persons in your community. Blindness can happen to you or to one of your friends or to a member of your family. Don't wait for it to happen before doing something about it. You can begin today.

You can also help by making cash contributions to our organization or remembering the National Federation of the Blind in your will. The National Federation of the Blind is supported by public contributions. Donations are tax deductible and may be sent to: Treasurer, National Federation of the Blind, 1800 Johnson Street, Baltimore, MD 21230.



Partially Sighted, Really Blind

by Catherine Horn Randall



Catherine Horn Randall, a leader in the NFB of Illinois, tells of the importance of understanding blindness and using alternative techniques.

(Note: This appeared in *The Month's News*, August, 1988, a publication of the National Federation of the Blind of Illinois.)

One rainy afternoon, a young mother stood across the street from Main Hall on the MacMurry College campus in Jacksonville, Illinois, watching the busy, laughing college co-eds come and go. She cried for her four-year-old daughter who might not have the opportunity to go to college or to lead a full life because she only had partial sight in her right eye. She was afraid and wondered about Cathy's future, and all she knew to do was to have Cathy evaluated by the professional staff of The Illinois Braille and Sight Saving School in Jacksonville.

The professionals told her that Cathy had so much sight that she wouldn't need to bother with braille. The bewildered young parents were grateful to the experts for their advice: who else could they turn to? The school didn't tell them that the National Federation of the Blind even existed. Cathy's parents took her home determined to enroll her in the sight saving program in Quincy, Illinois.

From this point on, I shall tell my own story. As I look back at the enormous implications to my life and to my education from being denied the opportunity to learn braille as a child, I am as angry and frustrated now as my mother was afraid for my future in 1951.

I happen to be an only child, and I like to think that I was constructively spoiled by my parents. My parents could not have been more supportive of me. If they had received common-sense guidance, I know I would have learned braille. Whatever I needed to help with my education, my parents enthusiastically provided. If only we had known that what we needed most was the National Federation of the Blind, braille, and cane travel skills. Unfortunately for me, we used the term "partially sighted" while I was growing up. I wasn't really blind because I had some sight, so I didn't think of myself as blind until I began losing my remaining sight in my late 20's.

I was a blind child and a blind college student who was trying to get along without either of the most important skills of blindness, namely braille and cane travel.

I took typing lessons when I was 10, and again in both junior and senior high. Typing, I feel, is another essential skill for blind and legally blind students.

A partially blind student who reads print and takes notes with flare pens or markers and uses tapes is still greatly handicapped if he or she does not know braille.

I didn't have much confidence in myself in high school or college and I think not having the skills of blindness was part of the reason, although I did not realize it at the time.

Eye strain was a constant problem for me in school. How wonderful and practical it would have been to make an easy transition from print work to braille when I used my eyes too much.

My father tutored me every night in math for years. My mother read to me so much that by my senior year in high school, she had damaged her vocal cords. I always loved school despite the hard work. I was feature editor for both my junior and senior high newspapers.

I earned a Bachelor of Arts degree from that same MacMurry College where my mother had despaired for my future, 19 years earlier.

College took me four and a half years and four straight summers to complete. I am now convinced that if I had had good braille skills, I might have been able to handle four courses a semester like everyone else instead of taking only three. I had a totally blind friend a year behind me in college who did take full course loads each semester and used braille.

Students, join and become active in the NFB. It is the greatest gift you can ever give yourself. Take the initiative to learn braille and cane travel. This may seem a tall order, but believe me, it is an essential one. You will find all the positive role models that you always needed in the NFB. You will learn that it is respectable to be blind.

Letter from an Ophthalmologist

(Editor's Note: The following is in response to questions that Sue Manchester asked her ophthalmologist.)

Dear Sue:

There are three professionals who are licensed to deal with eye care and/or optical devices for correcting vision. An ophthalmologist has usually completed four years of undergraduate school, four years of medical school and at least four years of post-graduate training in ophthalmology. An ophthalmologist is a fully qualified physician specializing in diseases and surgery of the eye. He performs complete eye evaluations and is trained to diagnose not only ocular conditions specifically but also general medical conditions which are reflected in the eye such as diabetes, hypertension and other disorders.

An optometrist is a practitioner who has usually completed four years of undergraduate school and four years of optometry school. Up until recently the main area of practice for optometrists has been correction of vision and visual disorders with glasses and/or contact lenses. He or she also is qualified to fit glasses when necessary. Recently they have also been allowed to use drops in the eye for diagnostic purposes, but obviously the training involved is not as extensive as that of a fully qualified physician specializing in ophthalmology.

An optician is a practitioner who is licensed to fit and grind lenses for correcting vision disorders and also contact lenses according to the prescription of either an ophthalmologist or an optometrist. The optician is not



Susan Manchester, Second Vice President, Diabetics Division of the NFB, is one of the leaders in the NFB of Connecticut.

licensed to use any diagnostic drugs and does not write prescriptions for vision corrective devices or medication.

I think there is general agreement that diabetics should be seen by an ophthalmologist on a regular basis. It is generally felt that after diabetes of five years duration, every diabetic should have a thorough eye examination at least once every year. This may be modified by an ophthalmologist after thorough evaluation, if he feels that the patient requires a different approach concerning the frequency of visits.

If there is any other way that I can be of assistance, please do not hesitate to contact me.

Sincerely,
A.D. Pearlstone, M.D.

Questions To Ask Your Doctor Concerning Your Sight Loss

Comments from the Editor: Following are questions from the Vision Foundation Inc., that anyone with any medical condition should ask their physician. Concerning question number 8: Unfortunately, many physicians are not aware that in most cases the best possible mobility aid for the blind is the long white cane or a dog guide. The long white cane is a tool that allows the blind to be independent. If you are losing sight and have any questions about using a cane, please contact our organization, the National Federation of the Blind.

1. What is the name of my condition?
2. How much vision have I lost?
3. What am I likely to lose?
4. Will further testing or consultation help?
5. Are there any treatment options open to me and if so what are they?
6. Is there any medicine that can help my condition?
7. Are there any optic aids that can help me to see or read better?
8. Are there any mobility aids that can help me get around?

What A Wonderful World

by Royanne R. Hollins



Royanne R. Hollins, Insulin Pump Chairwoman for the Diabetics Division of the NFB, shares an optimistic outlook on blindness.

What a wonderful world, I think to myself. There are so many wonders to behold. I think of these wonders more and more as time goes on, as I grow older and am able to celebrate one more year of life on this earth. One more year of makin' it through and I think to myself, "What a wonderful world."

There are so many sights and wonders to behold. Going outside even today and beholding the bright blessed day is a wonder in itself. The greens of the trees, the reds and yellows of the roses are so bright and wonderful to behold.

My diabetes is not an easy thing to accept and deal with on a daily basis. Some days are excellent and other days are not very good at all. Doing my best and following my doctor's advice is the best that I can do. I keep my head high and try to deal with whatever comes my way with a positive attitude and outlook on life. Nothing is going to put up a wall around me as fast as I can myself. Therefore, it is important to keep that positive attitude and look to the bright sides of life.

While my vision seems to be dimming day by day, I now look at the wonderful world around me as truly a wonder to behold. Yes, what a wonderful world indeed.

I am blessed. I can still see the skies of blue and clouds of white. I see the colors of the rainbow in the sky and on the faces of people going by. What a bright blessed day, indeed.

There are those who have already lost this ability: the manifestation of diabetes. Those of us having dealt with diabetes for so many years (I over 25 and many over that) have had to deal with the expansion of knowledge on

not-quite-a-fast-enough spectrum. We have been the victims of the lack of knowledge about our disease until recently. Now, however, the understanding has grown tremendously and knowledge has blossomed.

We try very hard to keep our blood sugars in good control (as defined by our endocrinologist). Sometimes just the children arguing before school can cause the sugars to rise. A hard day at work can cause the sugars to rise. In my case, a very busy day at work can cause the sugars to plunge to dangerous lows awaiting serious consequences. Our surroundings play a very important role in the treatment and care of our diabetes.

It is frustrating, yes, when all of what you do is "by the book" and still your vision begins to dim. You go through a series of laser surgery treatments to your eyes almost on a regular basis to save your vision and it happens still. A hemorrhage here, a hemorrhage there. Some days clear vision, other days not. Floaters passing by like uninvited guests that do not want to leave. Then the sight begins to dim more. You can no longer read with one eye, then the other. But oh, the vision comes back again and there is hope. Then, the peripheral vision is lost. You hope and pray that it returns, but it doesn't.

So, you go outside and take in the bright blessed day to see, touch and feel what is out there. You linger until the dark says goodnight.

It hasn't happened yet. In the back of your mind you think it just might, and that that day is coming sooner than you want. However, you keep praying and hoping and taking care of the diabetes the best you can. You get involved in educating others and trying to help. Others learn best from experience, even the experiences that you can actually share on a personal basis.

You can hear babies cry. You watch them grow. You know that they will learn much more than you will ever know. And yet, I still think to myself, what a wonderful world. What a wonderful opportunity to be able to help others, to share what you know and watch them grow.

Some day, some day, you know that all of this will be behind you. You will be taken away to another existence, you will no longer have to suffer, to weep, to miss the bright blessed day, the colors of the rainbow. You will no longer have pain or shed a tear. You will be home, forever home, in your Father's loving arms.

What a blessing you were given to have been a part of this wonderful world. You have seen and experienced some wonderful things and it continues on and on and on.

A popular song once expressed (and still does express) my feelings exactly. I share it now for comfort and joy and to understand some of what has been given to me as a gift.

I see trees of green
Red roses too
I see them bloom
For me and you
And I think to myself
What a wonderful world

I see skies of blue
And clouds of white
The bright blessed day
The dark say goodnight
And I think to myself
What a wonderful world

The colors of the rainbow
So pretty in the sky
Are also on the faces
Of people going by
I see friends shaking hands
Saying how do you do
They're really saying
I love you

I hear babies cry
I watch them grow
They'll learn much more
Than I'll ever know
And I think to myself
What a wonderful world!

Yes, I think to myself
What a wonderful world!

I ask for strength to carry on — to go forward and remain steadfast in all endeavors. What is going to be is going to be, no matter what is done by me. I cannot make myself taller or shorter by thinking about it, nor can I extend my vision longer by dwelling upon it.

So many have already walked this path that I am traveling now. I ask for your help to cope, to hope, to talk and share. This is a wonderful world, and I'm glad I'm here. Not so much glad for the future, but glad and thankful for the here and now. Not so much the past, and not concerned about the future, but glad for the here and now.

What a wonderful world!

Author's note: This is not a sad story. This is joy and overcoming. We need to live our lives in the most positive way possible. Sharing, caring and the giving of hope is a large part of what the National Federation of the Blind, Diabetics Division does for all of us when we need it. If you have a need such as this, please reach out and ask for it. You will find the Diabetics Division of the NFB very congenial, resourceful and informative.

Do You Know A Blind Person?

DO YOU KNOW A BLIND PERSON?

Do you know a blind person who needs help or information? Perhaps he or she is newly-blinded and having trouble adjusting to the loss of sight. Maybe he or she does not know about all the services that are available, such as Social Security benefits, rehabilitation, or library services.

Whoever it is — a newly-blinded man or woman, a senior citizen with failing eyesight, a blind child or infant — we (the National Federation of the Blind) would like to try to help.

About 500,000 people in the U.S. are blind, and each year 50,000 more will become blind. Studies have shown that only cancer is feared more than blindness. However, blindness does not need to be the tragedy which it is generally thought to be. With proper training, knowledge, and opportunities blind people can be productive, first-class citizens.

But first the blind individual must know where and how to get the training and services he or she needs. We — you and the National Federation of the Blind — can work together to find and provide necessary information to the blind in our communities.

Here are some of the services available to the blind in our communities. For more specific information about any of these services, please contact us.

LIBRARY

Our state, like every state, has free library services for the legally blind. Books and magazines are available (on loan and free of charge) in braille, large print, and on cassette and records. Special cassette machines and record players to use in listening to the taped or recorded reading matter are also loaned without cost to blind library users. For details about where and how to apply for services in your area you may contact us or your local library.

SOCIAL SECURITY BENEFITS

Social Security Disability Insurance (SSDI): Legally blind persons who have paid into the Social Security system may be eligible for SSDI under the special rules which apply to the blind. Legally blind senior citizens considering early retirement should first learn if they might qualify for more benefits under SSDI. **Supplemental Security Income (SSI):** Blind persons who have little or no regular income or savings may qualify for monthly payments under the SSI program. Again, there are special rules which apply only to the blind. Contact your local Social Security office for information and applications. We also encourage blind persons to contact us if they have any problems understanding the regulations, feel they have been unjustly denied benefits, or have other problems about

which we may be able to provide information and guidance.

REHABILITATION

Every state, including this one, has a public rehabilitation or vocational rehabilitation agency which provides training, counseling, and employment placement services to the blind. Sometimes the service is provided directly, and sometimes it is contracted out to private rehabilitation facilities. Some funds through the rehabilitation agency are usually available to students for college education or other post-secondary training. Contact us for information about where to apply for services in your area.

EMPLOYMENT

Blind persons may use the regular public and private employment agencies just like anyone else. However because of widespread misconceptions about the abilities of the blind, special employment services are extremely helpful. Job Opportunities for the Blind (JOB) is a special nationwide job listing and referral service sponsored by the National Federation of the Blind in partnership with the U.S. Department of Labor. JOB uses recorded materials, computers and volunteers to help blind people find competitive employment. There is no charge for this service. To apply for services write to: JOB, 1800 Johnson Street, Baltimore, MD 21230; or call (toll-free) (800) 638-7518.

SCHOLARSHIPS

Blind students can take advantage of the same scholarship programs that are available to sighted students and should be encouraged to do so. However, there are also scholarships which are only available to blind students. The National Federation of the Blind, for example, awards over \$50,000 a year in scholarships to worthy blind students. Contact us for further details

about these and other special scholarships for the blind.

CIVIL RIGHTS

There are federal and state laws and regulations which protect the civil rights of the blind in such areas as employment, education, housing, insurance, public transportation, and public facilities. If you know of someone who thinks he or she has been unjustly treated or discriminated against just because of blindness, please contact us. We will try to help.

PRODUCTS AND AIDS

Technology has made many useful products available to the blind. Some aids make daily life easier (example, the braille watch) while others have opened up more employment opportunities for the blind (example, talking computers). Contact us for more information about local and national resources regarding products for the blind.

FREE READING MATTER

MAIL PRIVILEGE

Recorded, braille, and large print reading matter (including library books and magazines) may be mailed to and from blind persons free of charge if "Free Mater for the Blind" is written or stamped on the envelope or package. Braille watches, white canes, and other special appliances for the blind are included in this privilege. We will be happy to answer questions about the Free Reading Matter mail privilege.

PUBLICATIONS

The *Braille Monitor* is a monthly magazine published by the National Federation of the Blind in braille, in print, in cassette, and on disc. The *Braille Monitor* keeps blind and interested sighted readers informed about issues, news, and events which have special significance to the blind. A free subscription is available by writing to:

Braille Monitor, National Federation of the Blind, 1800 Johnson Street, Baltimore, MD 21230 (be sure to designate whether the *Monitor* is desired in print, braille, cassette or on disc.) For information about local newsletters of special interest to the blind contact us.

EDUCATION OF BLIND CHILDREN

The passage of Public Law 94-142, the *Education of All Handicapped Children Act*, established certain rights and protections for blind children and their parents. Blind children are now entitled to a free public education in the "least restrictive environment," and parents have the right to help plan their child's educational program. Contact us for more information about the education of blind children, parent organizations, newsletters, etc. Also, the National Federation of the Blind publishes a magazine for parents of blind children. This publication provides information and insights into all aspects of raising blind children from infancy to adulthood. A free subscription is available to parents or other interested persons by writing to: Future Reflections, National Federation of the Blind, Free Subscription Request, 1800 Johnson Street, Baltimore, MD 21230.

For information or assistance concerning any problem dealing with blindness contact your local chapter or state affiliate of the National Federation of the Blind or: National Federation of the Blind, 1800 Johnson Street, Baltimore, Maryland 21230, (301) 659-9314.

COURTESY RULES OF BLINDNESS

When you meet me don't be ill at ease. I will help both of us if you remember these simple points of courtesy.

1. I'm an ordinary person, just blind.

You don't need to raise your voice or address me as if I were a child. Don't ask my spouse what I want — "Cream in the coffee?" — ask me.

2. If I am walking with you, don't grab my arm; let me take yours. I'll keep a half-step behind, to anticipate curbs and steps.
3. I want to know who's in the room with me: Speak when you enter. Introduce me to the others. *Include children*, and tell me if there's a cat or dog. Guide my hand to a chair.
4. The door to a room, cabinet, or to a car left partially open is a hazard to me.
5. At dinner I will not have trouble with ordinary table skills.
6. Don't avoid words like "see." I use them, too. I'm always glad to see you.
7. I don't want pity. But don't talk about the "wonderful compensations" of blindness. My sense of smell, touch or hearing did not improve when I became blind. I rely on them more and, therefore, may get more information through those senses than you do — that's all.
8. If I'm your houseguest, show me the bathroom, closet, dresser, window — the light switch, too. I like to know whether the lights are on.
9. I'll discuss blindness with you if you're curious, but it's an old story to me. I have as many other interests as you do.
10. Don't think of me as just a blind person. I'm just a person who happens to be blind.

In all 50 states, the law requires drivers to yield the right of way when they see my extended white cane. Only the blind may carry white canes. You see more blind persons today walking alone. Not because there are more of us, but because we have learned to make our own way.

How I Went Blind... and Then What

by Ed Bryant

(Editor's Note: This article is updated and reprinted from *Voice of the Diabetic*, Volume 2, No. 1, Winter edition.)

Diabetes is a sneaky disease. It usually takes 15 to 20 years before chronic complications will be noticed. And, there are many complications that can stem from the disease. Today, I will share with you my eye experiences and some observations about blindness.

I experienced early onset diabetes which was diagnosed some 30 years ago. After the initial shock of discovering I had sugar diabetes and learning how to give myself insulin injections, my lifestyle returned to one of a very busy and active teenager. The only difference was that I had to give myself one shot a day and watch my diet. Eating a lot of sweet food could cause problems.

But initially, I did not adhere to good diabetic practices. I was not good at watching what I ate and drank. I did what all my peers did and felt just fine. I was not worried about my diabetes. After having the disease almost 16 years, I began to notice some blurred vision. It was like looking through a smoky haze.

At first, I didn't think much about my blurry vision. In St. Louis, as the Administrative Manager for the division of a corporation that specialized in child photography, my job required a lot of paper work. So I assumed it was just a matter of seeing an eye doctor and getting a pair of glasses. But, I didn't get glasses, and as time passed, my vision deteriorated. Finally, I had to admit I was just being foolish and needed to see a retina specialist. After seeing an ophthalmologist I learned that I had proliferative diabetic retinopa-

thy. I had no functional vision in one eye and prognosis for the other was not good. The doctor recommended I see a diabetes specialist and get my disease under good control. Then, if possible, he could give me laser treatments.

I immediately made an appointment with a doctor who specialized in diabetes and began to regulate my disease very closely. After a time, with my diabetes under control, the vision in my one eye became substantially better. I was, of course, elated because I could see well enough again to do almost anything. While working in photography, I had driven in every state in the United States and thought driving a car was essential to everyone's lifestyle. Now, I could even drive my little blue sports car again!

After revisiting and consulting my

(Continued on page 6)



Ed Bryant, Editor, *Voice of the Diabetic*, shares that going blind hasn't kept him from leading an active life.

How I Went Blind

(Continued from page 5)

ophthalmologist, we decided I should have vitrectomy surgery in my bad eye. Hopefully, the surgery would restore some of my vision. The surgery was performed but to no avail. I still couldn't see. A few months later, a second vitrectomy was performed on the same eye. Once again, the results were negative. I knew that by law, I was legally blind. But I didn't consider myself blind because I had little trouble getting around and doing what I wanted to do.

During the daytime, I had no trouble unless I was walking directly into bright sunlight. The times I had difficulty were at night. Unless an area was well lit, I had a hard time seeing where I was going. Late one evening I was heading home. I was within walking distance and the area was well lit. As I walked, there were fewer and fewer street lights. I could barely see where I was going. But at a wide point of the sidewalk the landscapers had planted a preposterously huge tree directly in the middle. I walked along at a pretty good clip, and sure as heck, I ran into the tree. After my very "close encounter" and a few frank words with the tree, I walked the rest of the way home. As I look back, I can only laugh. If I had had more wisdom, I would have been using a long white cane and could have avoided possible injury — as well as the tree.

A couple of years later, my position was phased out and I found myself unemployed. I moved to Columbia, Mo., site of the University of Missouri. I tried to decide what to do from there. I had been offered upper middle management positions with several different companies, with very lucrative salaries. But once I told the prospective employers I was legally blind or that I had a severe eye problem, the offers no longer stood. The jobs were either "no longer available" or offered at wages less than half of the original offer. It didn't matter that I could do the work proficiently. My experience in business administration and public relations didn't matter either. When the words blind or legally blind were used, there was an immediate assumption that I was incapable of doing the job.

While out one night in Columbia, a friend of mine accidentally poked my good eye. I felt excruciating pain. My ophthalmologist suggested I see a retina surgeon in Memphis, Tenn., right away. The retina specialist told me the eye was in bad shape; however, he thought vitrectomy surgery might help. Once again, I underwent surgery. However, it only allowed me to see in a very limited way.

In the next couple of months, I lost my vision completely. I was totally blind. I lived in an apartment and really had no way to get around. After managing my personal business matters, and after being independent for years, I found it very difficult to let someone else become involved. My parents offered to build an extra room onto their home so that I could live there. Although the offer was loving and gracious, I would never consider such a thing. I'd always been an independent person and if I'd

moved into my parents' home, which was on a rural route, I would be more or less trapped since there was no bus service and the cost of a taxi to the country was very expensive. I couldn't expect my parents to provide me transportation everywhere. After all, they had a life of their own. Besides, I was a very active person and was used to travelling. I decided to keep my own apartment. I had no reason to depend on others. I was perfectly capable of doing the same things I'd always done. My biggest problem was not being able to draw up my own insulin. My mother drew up a seven-day supply. She renewed it weekly for three or four years until I finally learned there were devices on the market that enabled blind persons to accurately draw up their own insulin. This, in effect, meant I could manage my own disease.

My blindness made me angry and frustrated. I felt trapped and limited in what I could do. The fact was — I was blind. But after awhile, it seemed unreasonable to give up, and abandon independence because I couldn't see. I began to realize that in actuality, I wasn't limited. I could function very well in my apartment. I knew where everything was. And with a little ingenuity, I discovered I could cook and do anything in the kitchen. Everyday, I discovered alternative techniques that allowed me to do things just as well as I did when I was sighted. The important thing was I was learning how to help myself.

I telephoned Missouri's Bureau for the Blind and asked for a white cane, and someone to show me how to use it. After waiting two or three weeks, I grew increasingly angry. How could I be independent if I had to stay in my apartment? So one day, I took a hatchet and a kitchen broom and went outside, using my broom as a cane. I headed for a spot where I knew a little tree was located and chopped off a long branch. After returning to my apartment, I chopped and whittled until the branch developed into what I called a cane. I didn't know anything about cane dimensions, but I figured it should be about as tall as I was. I ended up with a make-shift cane that was about six feet long. I went for short walks. I chuckle now when I look back. I was probably a danger to society with my tree branch cane. I was definitely a danger to myself. The end of the cane kept getting stuck in the ground and I came close to rupturing my midsection on many occasions. Even though my tree branch cane was homemade, it helped me get around the apartment complex and many nearby roads. I had all the confidence in the world.

At last, a man from the Bureau for the Blind arrived with a better cane. After he left, I went for a walk. The top of the cane came somewhere between my naval and breast bone. I had to bend over as I walked with it, but I could do much better with the cane than the tree branch, although the cane was obviously too short. I knew where the city bus stopped so I took a bus downtown and spent the afternoon exploring. I never had any formal mobility lessons but I trained myself with few difficulties. I finally moved to the downtown area, ...

primarily because there were sidewalks. I lived in a high-rise apartment where there were many social activities and the apartment was close to the University, where something was always happening. There was plenty out there for a guy like me.

At some point I found out about the National Federation of the Blind (NFB). After attending a few meetings, I was more impressed with it than any organization I had ever been involved in. It was a united body of blind people who do everything possible to serve all blind people, no matter what the cause of their blindness. NFB philosophy ran parallel to my own regarding observations I had made since going blind. Most of the general public simply does not understand blindness. Many friends, neighbors, and family simply pity a blind person and think he/she is incapable of doing much. There is great pity and sympathy, and there is a lot of discrimination against the blind due to myths and misconceptions.

The key word is education. I, and members of our organization, are aware that with proper training and use of alternative techniques, we can do just about anything we desire. The NFB knows that society's perceived abilities can be misleading and that many blind people themselves become convinced, and think themselves into helplessness. This also holds true for the blind diabetic, who sometimes thinks that he/she cannot draw insulin. But the limitations for most blind persons are self-imposed. The NFB strives to enlighten society about the capabilities of blind people and it strives to change the way that many blind people think about themselves. It encourages them to think in terms of "I can" as opposed to "I can't." The NFB itself is a self-help organization that is living proof that blindness is not synonymous with inability.

Postscript: The Diabetics Division of the NFB was established to be a support and information network, and to assist persons undergoing any chronic diabetes complication. That's also what the *Voice of the Diabetic* is about. Since the *Voice*'s inception three years ago, its circulation has reached over 35,000, and is growing rapidly. The *Voice* provides an outlet for members' voices to be heard and for members to share their experiences. It's important that we share experiences, regardless of our diabetic complications. Many people find it helpful to talk to someone who understands what they're going through, someone who has been down the same road and experienced the same complications. Join our support network and be a part of that sharing, and connect with fellow diabetics. For information, contact the NFB Diabetics Division, or Ed Bryant, Editor of the *Voice of the Diabetic*.

Check Signs of Diabetes

1988, The Washington Post

Many diabetics go undetected for years, which is why health officials encourage people who are susceptible to the disease to undergo screening tests. Those at greatest risk of having diabetes are:

- Blacks, Hispanics and North American Indians;
- those who have at least one family member with diabetes;
- a person who is overweight and inactive;
- women who had diabetes while they were pregnant.

Early signs of diabetes in women can be a chronic urinary tract infection or a resistant vaginal yeast infection. In men, mild cases of impotence may be caused by diabetes. Other signals can be a mild, tingling sensation or loss of feeling in hands or feet, thirst and excessive urination.

Screening for diabetes is performed by a simple test that involves taking a few drops of blood from the finger. If the blood sugar is high, a second test — a glucose tolerance test — is performed on another day. Two positive glucose tolerance tests indicate that an individual has diabetes.

Most doctors recommend that people at high risk of the disease have regular screening tests starting at age 40.

Achievement

Achievement is made of high hopes, of hard work, of dreams and drudgery. The blind of America are willing to work and work hard, but we also dare to dream. This is the story of the National Federation of the Blind. This is why we, as blind people, have organized and why we seek your help and understanding. When you see our literature in the mail or meet us on the streets, think of us as people, as fellow citizens just like you, with all the range of talents and weaknesses, wants and wits that you possess. The National Federation of the Blind is the blind speaking for themselves with a positive voice.



If you or a friend would like to remember the National Federation of the Blind in your will, you can do so by employing the following language:

"I give, devise, and bequeath unto National Federation of the Blind, 1800 Johnson Street, Baltimore, Maryland 21230, a District of Columbia nonprofit corporation, the sum of \$_____ (or "_____ percent of my net estate" or "the following stocks and bonds: _____") to be used for its worthy purposes on behalf of blind persons."

Ask Dr. James

by Ronald James, M.D.



Ronald James, M.D., long-term insulin dependent diabetic, directs Midwest Diabetes Treatment and Education Center, Columbia, Missouri. Dr. James is also the Medical Director of the Central Missouri Diabetic Children's Camp, Inc.

(Note: If you have any questions for Dr. James, please send them to the editor. The only questions Dr. James will be able to answer are the ones used in his column.)

Why can't I take insulin by mouth instead of by injection?

One can not take insulin by mouth because insulin is a small protein molecule and is destroyed by digestion in the intestinal tract just like any other protein.

What would happen if I failed to take one of my insulin injections and what should I do?

If one fails to take one of his daily insulin injections, the blood sugar will probably rise higher than usual. One may or may not feel bad or become ill. If it is only an hour or two late he may still take it or at least part of it. I would suggest one might wish to contact his physician for specific advice.

If I feel ill, why is it important that I take my insulin if I can't eat? If I don't feel like eating normal foods, what can I do to get me through this period?

An illness stresses the body greatly and may cause the liver to produce sugar, often in excessive amounts which in turn may raise the blood sugar to quite high levels. In fact, when one is so ill he cannot eat, it may be necessary to take extra insulin in order to avoid very high blood sugars and the development of diabetic ketoacidosis. When one doesn't feel like eating frequently, he can take liquids such as defizzed 7-UP, thus getting some fluids, salt, potassium and calories in the form of sugar. When given adequate amounts of insulin the glucose can be burned

instead of fat and thus limit the production of ketones. Therefore, juice or soda containing sugar may be used to get one through the illness. The important thing is to take adequate amounts of insulin to keep the blood sugars as near normal as possible. It should be remembered that one may have to increase the dose of insulin in order to do this.

Would it be possible for me to take a little extra insulin before a big meal to keep my blood sugar under control?

In some cases this may be possible; check with your personal physician and follow his guidelines in doing so. The

important thing is to take an adequate amount of insulin to match the increase in food and thus keep the blood sugar under control. The amount to increase one's insulin must be determined by trial and error, but at least for many, this is certainly a possibility.

Would it be beneficial for me to send my nine year old child to a summer camp for diabetic children? Is there a source where I can find a listing for such camps?

Yes. I feel very strongly that summer camps for diabetic children have much to offer, not only in terms of managing the diabetes and teaching them about their disease and how to care for it, but

also in the way of psychological benefits received from such an experience. Many times children think they are the only one with diabetes. They feel alone and the experience of a summer camp may help relieve many anxieties and improve their self esteem.

The American Diabetes Association provides a list of camps for diabetic children that are operated each summer. This is usually published in the American Diabetes Association *Forecast*. I am sure one could obtain this list by writing to the American Diabetes Association, 1660 Duke Street, Alexandria, VA 22314.

What is Diabetic Retinopathy?

by Dr. Timothy Holekamp, MD

(Note: This article is based on a presentation on diabetic retinopathy by Dr. Timothy Holekamp at a monthly American Diabetes Association (ADA) meeting. The ophthalmologist and retina specialist spoke to a group of diabetics and interested parties in Columbia, Missouri, on Feb. 11, 1986. In speaking to this group, Dr. Holekamp was concerned with explaining the likelihood of their contracting diabetic eye diseases. This article has been updated and reprinted from *Voice of the Diabetic*, Vol. 2, No. 1, Winter Edition. He opened with a history and definition of the condition.)

"Diabetes is a large health problem in America today. It is the most common cause of all new cases of blindness here. The reason is not that all diabetics go blind," he explained. "It's because many diabetics happen to be at risk for the condition."

Dr. Holekamp described the situation as it was ten years ago when almost every person who had suffered with diabetes for twenty-five years showed retinopathy. But today there's new hope. He described two general situations. In the first case, the doctor has seen two or three patients with diabetes for more than thirty years who have no signs of retinopathy. In the second situation, newly diagnosed diabetics may never get retinopathy because they learn to control their diabetic conditions from the beginning. These hopeful situations contrast with the less optimistic ones: there are many lifelong diabetics who haven't managed to get their conditions under control. They remain at risk.

"It doesn't mean half of all long-term diabetics will lose their sight from retinopathy. It means that all diabetics should pay attention to their conditions because of the statistical likelihood favoring their chances of contracting clinically diagnosable retinopathy," said Dr. Holekamp.

In order to determine the chances for having retinopathy problems, Dr. Holekamp distinguished between the different types of diabetes for his audience. He divided patients into three groups. In the first group are patients with juvenile-onset diabetes: anyone who contracts diabetes before thirty. "During the first decade of their disease, it's highly unlikely they'll develop clinically significant retinopathy. If you're a juvenile diabetic for ten years or less, you have a 10 percent chance of coming down with retinopathy," remarked Dr. Holekamp.

The figure soars for patients who have had diabetes fifteen years or more. "In fifteen years, it soars to 73 percent," explained the doctor. "In fact, when people contract retinopathy from age thirty to fifty-nine, it may just be the late juvenile or early adult onset. But the percentages of disease (at that point) are that much higher. This group (onset age thirty to fifty-nine) tends to sort out closely with adult onset or maturity onset diabetes. What it means is that in the decade, one-third of this group demonstrates diagnosable retinopathy. So, in fact, their numbers are quite different from juveniles. What may have happened is that many people in the latter two classifications were diagnosed for diabetes very late: after much vascular damage had already been incurred. What's clear is, after you've suffered from diabetes for fifteen years or more, the chances you have of getting retinopathy are pretty high."

Dr. Holekamp took time to explain the structure of the eye to facilitate his explanations. "You only see the front portion of the eye, but there's a lot of structure inside the socket," he noted. "The eye is round and hollow. It is essentially like a camera. Cameras were modeled after eyeballs. They have square corners instead of round edges. There's a front focusing device. The lens of the eye and the cornea together are responsible for focusing the image: the light rays come into the eye through

the pupil. The pupil is an aperture that can be opened in dark illumination and closed in sunlight to control the amount of light entering the eye. The world's image focuses on the retina, a membrane lining on the inside back wall of the eye. It's in the same location as film in the camera," he explained.

Dr. Holekamp told how the retina's job is to convert the picture of the outside world — light rays — into electrical signals that can be transmitted to the brain through a nerve that exits through the back of the eye. This is the optic nerve and it carries information in one direction from the eye to the brain. The retina is "fed" by two sets of circulation, the retinal circulation and choroidal circulation. Dr. Holekamp pointed out that the retinal circulation is important to the discussion. "The retinal circulation starts as a single blood vessel, a little arteriole entering the eye through the back opening where the optic nerve begins. It branches out and feeds into the whole retina until it breaks down into tiny capillaries and carries the blood into the tissues. It's at the capillary level that oxygen and blood are transported into the retinal tissue. Afterward, the same blood picks out by-products and carbon dioxide. It is drained back out of the eye and re-collects into a vein that exits at the same site into two large blood vessels: one entering and one exiting at the same place. But the retina differs from the film in a camera in one important way. Film is the same all over: standing over on the side of a picture is equally as clear if you're in the middle of the picture. But the retina is different. The retina has a center called the macula, which is much more sensitive to details than the retina's outer edges. An individual's normal vision is centered in the macula. That's why we must aim our eyes at what we want to see. It's so the image of the thing we're looking at will align with the macula, in the center of the eye. But less than 5

(Continued on page 8)

What is Diabetic Retinopathy?

(Continued from page 7)

percent of the retinal surface is represented by the macula. The major percentage of the information your brain makes sense of comes from that small spot. So it must be protected. The macula's center is the fovea, the actual location of our 20/20 vision." After explaining this, Dr. Holekamp felt his audience had the background to understand the following explanations.

"Retinopathy can be divided into two forms. Some people have both forms; but most suffer with only one. The more prevalent form is called background diabetic retinopathy. When it damages vision, it's called maculopathy, or disease of the macula. Maculopathy involves fluid leaking from damaged capillaries: the network of blood vessels covering the *retina* tissue. This leakage causes the area around the retina to swell. Fatty materials that leak from the damaged vessels collect, forming a yellow exudate. That, in itself, is not the damaging factor. It only shows evidence of chronic edema from fluid leakage in the retina. The result of diabetic maculopathy is blurred center vision when there is a fair volume of fluid collected at the center of the macula, or the fovea. A person's vision can be knocked out quite a bit." Dr. Holekamp discussed this with a chart to illustrate his explanation. He pointed to many little hemorrhages, which resemble tiny red dots, called "microaneurysms." They're not the kind that affect vision.

"Blood vessels undergo several kinds of damage. Sometimes they get blocked; sometimes they leak. Sometimes they develop little sacks of outpouching like a hernia of blood vessels. Leaky blood vessels or microaneurysms are the cause of diabetic maculopathy. But there's a second kind of problem, one which shows up at a later stage of diabetes. This second kind of severe eye problem shows up in an individual with substantial metabolic abnormalities: a severe loss of control, failure and other electrolyte problems. So the second kind of eye trouble relates to the chronic metabolic difficulties of a diabetic. Added to leakage of the little blood vessels is the frequent thickening of vessel walls and other substances added to the blood causing it to clot inside an already damaged capillary. This shuts off the blood flow to a particular tissue. If that happens in many areas over the surface of the retina, it suffocates. Interestingly, the retina can send off a chemical which has not yet been fully described. This chemical seems to stimulate the growth of new blood vessels, which is recognized in diabetic proliferative retinopathy. At some location on the retina, new blood vessels grow or proliferate from the old ones in an uncontrolled manner. The vessels are harmful to the eye. They grow right into the hollow center part of the eye where they're pulled on by the vitreous jelly there. They break and cause hemorrhages, filling the eye with blood. As a result, an individual may lose his sight entirely. This condition is called 'proliferative diabetic retinopathy' because blood vessels

and scar tissue proliferate throughout the eye. This problem is rare but serious, since it causes the individual a serious loss of vision." The doctor noted there is treatment for the disease if it's caught soon enough to limit the destruction to the eye.

"Scar tissue accompanies the growth of new blood vessels and hemorrhages. The scars grow across the retina's surface and contract. The contraction causes what is called 'retina detachment.' It causes an extreme vision loss at that stage." The doctor proceeded to describe what treatments exist for the various conditions. "For maculopathy (leakage of fluid causing blurred center vision), it's essential to control high blood pressure. High blood pressure and poorly controlled diabetes impact on each other additively. The impact of the two together is much worse than the influence of one alone. So controlling high blood pressure with medication is very important."

Dr. Holekamp proceeded to speak about controlling diabetes. "One problem of control in the disease is bringing down the level of serum lipids, or fats, in the bloodstream. Photocoagulation or laser treatment helps certain patients. Laser treatment helps in fluid leakage of maculopathy and the proliferative form of the disease. Patients suffering from both conditions can be treated by laser photocoagulation. Previously, only a small percentage of patients whose blurred vision came from diabetic maculopathy benefited from laser treatment. But improvement of the technique has increased the success rate as well. The patient most recommended for photocoagulation treatment is one whose eye has lots of exudate, some hemorrhage and lots of edema in the center. A doctor can evaluate such a condition with a 'fluorescein angiogram.' This test produces a set of photographs from injecting dye into the patient's arm. The dye travels to the blood vessels causing visible leakage where the damage exists."

Dr. Holekamp continued to discuss the risk ratio for contracting maculopathy or proliferative diabetic retinopathy. He identified particular factors increasing the likelihood of a diabetic contracting retinopathy. Length of diabetes is an important factor. Anyone who's suffered from diabetes 15 years or more should have his eyes checked annually.

He continued, "Uncontrolled hypertension is another important factor. Genetic inheritance still seems important. A diabetic with someone else in the family who has diabetic retinopathy is more likely to have vision problems. People suffering from diabetic kidney disease which is serious enough to require a physician's care are more threatened by retinopathy. Patients with enough vascular damage to require an amputation are more prone to retinopathy. Another health problem relates to suffocation of the retina or retinal ischemia. We've already discussed the cause of proliferative diabetic retinopathy, where new blood vessels grow uncontrolled over the retinal surface. Anything reducing the delivery of oxygen to the eye tissue will

induce the production of the chemical stimulating the growth of harmful new blood vessels in the eye."

Dr. Holekamp warned, "Smoking cigarettes produces a condition where the smoker's red blood cells (hemoglobin) become partially bound to carbon monoxide. The carbon monoxide binds to the hemoglobin, depriving it of oxygen. For every bit of carbon monoxide that binds to hemoglobin, it diminishes the amount of oxygen that can be transported to the tissues. The second negative effect of cigarette smoking is increasing the stickiness of small cells in the bloodstream called platelets. Platelets help the blood clot when it needs to by forming tiny clumps that produce clots to stop up broken or torn blood vessels. They usually flow smoothly through the bloodstream until something signals them to start sticking. Smoking cigarettes causes clumps (or aggregates) of platelets to clog up the already damaged blood vessels in a diabetic suffering from retinopathy. This clotting may shut down blood flow to the retina. By decreasing the amount of oxygen transported to the retina, you increase the likelihood of stimulating an attack of proliferative diabetic retinopathy. These are the two mechanisms by which cigarette smoking decreases the amount of oxygen transported to the retinal tissue."

The doctor commented, "American laws prevent us from testing these theories fully in the United States. But the Canadian system of socialized medicine facilitates such practical research. It's easy to study diabetes in Canada because everyone in a region attends the same clinic for medical care. So first you go to one town and identify all the diabetics. Then you collect all their records and arrange personal interviews by visiting them at home or at the care giving institute. They did that in Canada. They assembled all the diabetics in a region and tested them in a variety of ways for proliferation retinopathy or maculopathy. They asked how long they had diabetes. They recorded accurate data, including their smoking histories. Then the researchers loaded the information into a computer and 'shook it up.' What emerged was very interesting," Dr. Holekamp stated. He explained that the results showed a high correlation between 'pack-years' (how much one smokes) and incidence of proliferative diabetic retinopathy.

Dr. Holekamp stressed the importance of statistically significant data. "Among non-smokers, however, there was no correlation between length of time the patient had diabetes and the incidence of proliferative disease."

He added, "It may be, by measuring 'duration' we're actually measuring how long people have smoked. We may have misinterpreted the especially high correlation, among smokers, between duration of their diabetes and proliferative retinopathy."

Dr. Holekamp repeated the major observation: "Diabetic smokers are much more prone to contract proliferative retinopathy because smoking interferes with oxygen transport."

He led into the next subject: he first

wanted to talk about a new technique for treating a less severe form of diabetic retinopathy published by a colleague. He was concerned here with diabetic maculopathy.

"In some patients, you can simply see the leakage well enough to treat it, but others leak everywhere. Since treating all the blood vessels would destroy too much tissue, in earlier times these patients were not treated for their maculopathy. Instead, they were treated to improve their metabolic status. This new treatment is not with any new machinery. It's the same old laser but it's done in a grid pattern: just zap, zap, zap all the way across the macula. The pioneering physician had guts enough to test this technique on many patients at once. As a result of his research study, he proved that patients receiving this grid pattern laser treatment on the macula end up having better vision than those receiving no treatment at all. As a result, on patients who have this one diffuse form of leakage, this grid-form of treatment is being done."

In the following part of his talk, Dr. Holekamp dealt with treatments for the most severe forms of retina scarring and leakage problems. He spoke of surgery techniques which were greatly improved during the last decade. He highlighted an operation called "vitrectomy."

If it's done at the right time, coupled with proper laser treatment, it can stop the problem and correct it (enough) so that patients can maintain their vision or even regain quite a bit.

"There are exceptions. Many times we'll see a patient for the first time when proliferative disease is far advanced. Their vision may already be severely impaired. Even after the best corrective treatment, damage to the eye continues. In most of those patients, all the blood vessels in the retina have already been so badly damaged by the patient's long history of poor diabetic control, there's really no chance for a complete recovery. We can't repair already destroyed blood vessels," Dr. Holekamp stated.

"What we're doing now is trying to catch the disease earlier, by convincing people of the certainty that diabetic control stops the progress of this damage. Bringing diabetics with retinopathy under good control tends to stop the process. Even for people with a 10-15 year case of diabetes, their condition may not worsen."

Dr. Holekamp stated that he has treated a large number of patients who have had severely rigidly controlled diabetes for many years, and their condition hasn't worsened, even though they had the worst form of this disease when they first came. "So there is hope; the disease can be stopped, if there are still functioning blood vessels that can be saved when it's caught. Things can be done to prolong useful vision."

Dr. Holekamp thinks that in the future, this problem will be solved with techniques to improve diabetic control.

(Editor's Note: This article appeared in *Joslin Magazine*, Spring, 1987, published by the Joslin Diabetes Center. Reprinted with permission.)

Coupling state-of-the-art video technology with conventional equipment used to photograph the interior of the eye, researchers at Joslin have designed a highly sensitive device that makes it easier to detect very early signs of diabetic retinopathy, a disease that affects roughly 40 per cent of all people with diabetes. The Multi-Video Image Analysis System, while still in the experimental stages, should eventually enable doctors to monitor more effectively the progression of the disease, and help them prescribe treatments that may delay or prevent serious vision loss, including blindness.

The video system was created by linking a highly sensitive video camera, high-resolution video recorder and TV monitor with a fundus camera, which is the standard tool currently used to examine the eye, says Sven-Erik Bursell, Ph.D., a biophysicist at Joslin's William P. Beetham Eye Research and Treatment Unit. The new equipment allows clinicians to take, process and analyze color images of the retina — the tissue-paper-thin "projection screen" of the eye — in a matter of minutes rather than days.

More important, the new system enhances greatly a standard procedure — known as fluorescein angiography — used to photograph the flow of blood through the retina to check for leaks and other signs of advancing retinopathy which may require prompt treatment. The faster, more precise video fluorescein angiography is a boon not only to clinicians but also researchers, who are trying to detect and locate minute changes in blood flow and oxygen levels in the eye. Such changes may be the earliest signposts of diabetic retinopathy.

Damage to the retina

Researchers do not yet fully understand how diabetes damages the eye. What is certain is that people with the disease run an increased risk of developing a number of visual problems, ranging from mild to severe. In retinopathy, diabetes damages the retina by affecting the blood vessels and making it increasingly difficult for them to supply all the oxygen and nutrients the retina needs. In the disease's early or "background" phase, blood vessel walls become enlarged in places, ballooning outward and leaking fluid which can collect and cause swelling in the retina. When fluid collects in the central part of the retina, vision may become blurred.

In most patients with retinopathy, vision is not seriously affected. If the disease progresses to the more advanced "proliferative" stage, however, new blood vessels can sprout from the retina's surface, possibly in an effort to

supply nutrients to damaged tissues. These abnormal blood vessels may extend into the clear jelly that fills the eyeball. They can easily rupture and bleed, clouding the jelly and hindering the passage of light to the retina. Scar tissue can also form and pull the retina away from the back of the eye. In such cases, partial or total blindness may result.

Fortunately, photoocoagulation can reduce the risks of vision loss. During this treatment, powerful, precisely aimed beams of light from a laser are used to seal off leaking retinal blood vessels and destroy diseased tissue. The method reduces by 60 per cent the chance that people with advanced retinopathy will suffer severe vision loss, provided bleeding has not made it too difficult to see where the laser beam should be directed. In cases of extensive hemorrhaging, blood and scar tissue can sometimes be removed by an operation called vitrectomy, in which the blood-clouded jelly of the eyeball is replaced with clear fluid. If successful, vitrectomy may restore some sight.

Improving conventional therapy

Traditionally, a complete examination of the retina may involve giving a patient eyedrops that enlarge the pupil (opening) of the eye, so that the back of the eye can be examined and photographed. Using a fundus camera and a powerful flash, a photographer takes several color pictures of the retina, each one providing a partial view of its curved surface. These photos record the eye's condition so that changes can be detected during future visits.

The video system improves upon this procedure in a number of ways, says Dr. Bursell. First, it uses a video camera and recording system so sensitive to light that no flash is necessary. This is advantageous to the patient, who may find bright light uncomfortable. Second, the images can be displayed on a TV monitor instantaneously. Doctor and patient can then discuss the results of the exam, rather than having to wait at least ten days before the film can be processed. Third, instead of being processed in a laboratory, images are "digitized" by a computer and recorded on an optical disk, which is similar to a compact disk ("CD") now used to record music. On a single, quarter-inch-thick disk, enough images can be stored to fill a file cabinet 40 feet long. Several images can be simultaneously retrieved from the disk for viewing by typing instructions into the computer.

If necessary, a more detailed picture of the retina can be obtained using fluorescein angiography. In this procedure, a dye is injected into the patient's arm that quickly reaches the retina. Using only the conventional fundus camera and black-and-white film, a photographer takes 12 to 15 photos using a powerful flash at the rate of one per second — the camera's maximum speed. The result: a sequence of

images showing fluorescent dye entering and leaving the retina's delicate network of blood vessels. Careful analysis requiring several hours should reveal the speed and pattern of blood flow, and any leakage that might be due to vessel deterioration.

Conventional fluorescein angiography is "a rather involved procedure for both patient and photographer," says Dr. Bursell. "The amount of dye injected is sufficient to cause some patients to feel nauseated or overly warm, possibly due to temperature differences between the dye and the patient's own body." There is only time for a limited number of photographs, he adds. Hopefully — despite the camera's flash — the patient will not blink often, rendering the image sequence incomplete for analysis.

By contrast, video fluorescein angiography is a far simpler and more accurate procedure. Again, the video camera needs no flash. It is so sensitive to light that only a small amount of fluorescein dye is required (one tenth the normal quantity), virtually eliminating negative side effects to the patient, who need not even be aware that a video recording is being made. Also, more than one injection can be given at one time, so both eyes can be tested on the same day. Most important, the camera can record thirty images per second, tracing blood flow through the retina with greater clarity than ever before. For the first time, the physician is able to see in these images exactly what the photographer sees through the camera lens.

"The video system gives us a better idea of the extent of changes taking place inside the eye," says Dr. Bursell. "It lets the physician decide whether and where to apply laser treatment almost immediately if need be." Findings can be shown and explained more easily to the patient, he adds. "If photos show that a hemorrhage seems likely, for example, you can explain why and where treatment is needed."

While the fluorescein angiography reveals in more detail areas of the retina requiring laser treatment, a color image reflects what the clinician actually sees when looking at the patient's retina. Bringing both color images and angiograms up on the TV screen side-by-side makes it easier for the clinician to know exactly where to direct the laser beam. Dr. Bursell has succeeded in superimposing the two types of images, so that problem areas identified by the angiogram can be outlined directly onto a corresponding color image, making laser treatment easier and more efficient to perform. In the future it may be possible to link the video system to lasers that can be manipulated by computer. The computer would then assist physicians in aiming and firing the laser beam.

While the new system has obvious advantages for patient care, its use in research is also potentially exciting. At Joslin, Senior Physician and Eye Re-

search Section Head Dr. Lawrence I. Rand, Investigator Dr. Andrzej Krolewski and Dr. Bursell hope to use Multi-Video Image Analysis to identify mechanisms or pathways through which retinopathy develops. They speculate that high blood sugars may alter the rate and pattern of blood flow through the retina, leading over time to the disease's onset and progression.

There are a number of theories about how and why these changes take place. Some researchers suspect that they are caused by chemical and structural changes in both retinal blood vessels and the cells of blood flowing through them. According to one theory, retinopathy gets its start when rising blood sugars alter the molecular and cellular structure of blood-vessel walls, thickening them and reducing their ability to expand. The sugars have a similar effect on red blood cells. Their membranes grow rigid, making it harder for them to squeeze through the tiniest blood vessels, the capillaries. Meanwhile, inside the cells, chemical changes occur which hamper the cells' ability to release oxygen to surrounding tissues.

Detecting subtle changes in the retina early should enable doctors to predict who is likely to develop retinopathy, and when. It may even be possible to identify minute changes in the retina before diabetes develops, according to Senior Investigator Dr. J. Stuart Soeldner. Dr. Soeldner has used conventional fluorescein angiography to compare blood circulation in the eyes of three groups of people: those who did not have diabetes; those whose parents both had diabetes and were therefore at high risk of developing the disease themselves; and those who had the disease. He found slight but meaningful differences in the speed with which blood flowed through the retina, with speed increasing with the development of diabetes. Dr. Soeldner believes that further research using Multi-Video Image Analysis may help clarify the relationship of diabetes to changes in blood circulation speed and other factors.

At the moment, the Multi-Video Image Analysis System is the only one of its kind in the U.S. being used in ophthalmology, according to Dr. Bursell. The system has been assembled at Joslin over the past 18 months with the help of a grant from the Diabetes Education and Research Foundation, funded by Hoechst-Roussel Pharmaceuticals, and funds from the Massachusetts Lions Eye Research Fund. More testing is needed — as are \$160,000 to purchase video image-acquisition and storage equipment currently on loan from the manufacturers — before the system can be used to treat patients at the Center. If the system fulfills its promise, it could introduce widespread changes in the way ophthalmologists monitor diabetic retinopathy and other kinds of eye disease.

Diabetes and Your Eyes

(Note: The following is extracted from pamphlets published by the U.S. Department of Health and Human Services.)

Why Is It Important to know how diabetes affects the eyes?

If you are among the 10 million people in the United States who have diabetes—or if someone close to you has this disease—you should know that diabetes can affect the eyes and cause visual impairment.

Fortunately, there are ways to prevent or lessen the eye damage caused by diabetes. That is why it is so important for people with this disease to have a professional eye examination as soon as their diabetes is diagnosed, and at least once a year thereafter.

Regular eye examinations are especially important for people who have had diabetes 5 years or longer, for those who have difficulty controlling the level of sugar in their blood, and for diabetic women who are pregnant. All of these people are at increased risk for diabetes-associated eye problems.

What is diabetic retinopathy?

Diabetic retinopathy is a potentially serious eye disease caused by diabetes. It affects the retina—the light-sensitive tissue at the back of the eye that transmits visual messages to the brain. Damage to this delicate tissue may result in visual impairment or blindness. Diabetic retinopathy begins with a slight deterioration in the small blood vessels of the retina. Portions of the vessel walls balloon outward and fluid starts to leak from the vessels into the surrounding retinal tissue. Generally, these initial changes in the retina cause no visual symptoms. However, they can be detected by an eye specialist who is trained to recognize subtle signs of retinal disease.

In many people with diabetic retinopathy, the disease remains mild and never causes visual problems. But in some individuals, continued leakage from the retinal blood vessels leads to macular edema. This is a build-up of fluid in the macula—the part of the retina responsible for the sharp, clear vision used in reading and driving. When critical areas of the macula become swollen with excess fluid, vision may be so badly blurred that these activities become difficult or impossible.

Some people with diabetes develop an even more sight-threatening condition called *proliferative retinopathy*. It may occur in people who have macular edema, but also can develop in those who don't. In proliferative retinopathy, abnormal new blood vessels grow on the surface of the retina. These fragile new vessels can easily rupture and bleed into the middle of the eye, blocking vision. Scar tissue also may form near the retina, ultimately detaching it from the back of the eye. Severe visual loss, even permanent blindness,

may result. But this happens in only a small minority of people with diabetes.

What research is being done on diabetic retinopathy?

The National Eye Institute is supporting a nationwide study to determine whether photocoagulation—used alone or in combination with aspirin—can benefit people who are still in the early stages of diabetic retinopathy. Almost 4,000 patients are enrolled in this 5-year clinical trial. It already has proven the value of photocoagulation for macular edema and is expected to yield further valuable findings in the future. Another clinical trial sponsored by the Institute and Pfizer, Inc., is evaluating a new drug called sorbinil to see if it can prevent eye and nerve damage in people with diabetes.

In addition to these clinical trials, the Institute is supporting an extensive program of research on the causes, detection, and treatment of diabetic retinopathy.

Who can refer you to an eye care specialist?

If you know you have diabetes, you are probably under the care of a physician who can refer you to an eye doctor for regular examinations and treatment, if needed. You may also request the name of an appropriate eye doctor from eye care centers affiliated with academic institutions, from a hospital, or from a diabetes clinic at a medical center.

About Diabetes

Diabetes is a complex disorder in which the body is unable to use properly certain food elements, especially starches and sugars. Normally, the body's digestive juices convert starches and sugars into glucose, a simple sugar, which circulates in the blood. The hormone insulin allows the body to convert glucose into energy needed for everyday activities or store it for later use.

Insulin is produced by the pancreas gland. In someone with diabetes, however, either the pancreas does not produce enough insulin, or the body does not properly utilize the insulin that is produced. As a result, excess glucose collects in the blood and tissues and overflows into the urine.

Daily injections of insulin, plus a special diet that controls starch, sugar, and calorie intake, can help prevent the buildup of glucose and control insulin-dependent diabetes. An estimated 400,000 Americans suffer from this form of the disease.

Noninsulin-dependent diabetes affects the remainder of the 10 million diabetic persons in this country, about half of whom are unaware that they have the disease. This more common type of diabetes can be managed with a controlled diet, regular exercise and, in some cases, oral medication.

Both forms of diabetes can cause

long-term, serious damage to virtually every tissue in the body, particularly the tiny blood vessels of the nerves, kidneys, and eyes.

A Word About Self-Care

While scientists seek new ways to prevent and treat diabetic retinopathy, people with diabetes can work to maintain their health and keep their disease under control. Although the precise relationship between glucose levels and the development of diabetic complications is not fully understood, many physicians who treat diabetes believe that good control of glucose levels will lessen or delay complications, including those affecting vision. Here are some health practices which may benefit diabetic individuals:

- take insulin and other medications as prescribed by a physician;
- inform each physician of medication prescribed by other doctors;
- follow a controlled diet recommended by your doctor;
- maintain normal body weight;
- do not smoke;
- exercise regularly;
- have blood pressure checked periodically;
- have an annual eye examination.

The American Diabetes Association recommends that diabetics be seen by an ophthalmologist as soon as their disease is diagnosed. Their eyes should be examined once a year thereafter, although individuals with significant diabetic retinopathy should be seen more frequently. Generally, the longer a person has had diabetes, the more critical annual eye examinations become.

Glossary of Terms

Cataract: a clouding of the lens of the eye. Cataract interferes with vision by blocking the passage of light rays to the back of the eye. It is treated by surgical removal of the opaque lens.

Fluorescein Angiography: a means of photographing the flow of blood in

the retinal vessels of the human eye by tracing the progress of an injected fluorescein dye.

Glaucoma: an eye disease associated with increased pressure within the eye. Glaucoma can damage the optic nerve and cause impaired vision and blindness.

Laser: a device which generates an intense beam of light energy. Laser is an acronym for light amplification by stimulated emission of radiation. Various types of lasers are used in eye surgery.

Macula: the area near the center of the retina that is responsible for fine or reading vision. A common complication of diabetic retinopathy is swelling (edema) in the macular area which distorts vision.

Neovascularization: growth of abnormal new blood vessels along the surface of the retina. Neovascularization occurs in advanced stages of diabetic retinopathy.

Ophthalmoscope: an instrument with a perforated mirror and light used to examine the interior of the eye.

Photocoagulation: a surgical procedure using an intense beam of light to seal off or destroy leaking blood vessels and damaged tissue in the retina. Photocoagulation is used in the treatment of diabetic retinopathy.

Retina: the light-sensitive tissue that lines the inside of the back of the eye. The retina receives visual images and sends messages via the optic nerve to the brain where "seeing" actually takes place.

Vitrectomy: surgical removal of the vitreous, the normally transparent gel that fills the center of the eye. When a diseased vitreous becomes clouded by blood and scar tissue, it can be removed with a special instrument which then replaces the vitreous with a clear solution.

Do You Know?

- Have you seen the mailings of the National Federation of the Blind?
- With proper training and opportunity, the average blind person can do the average job in the average place of business and do it as well as his sighted neighbor. Blindness can be reduced to the level of physical nuisance.
- When a blind person, otherwise qualified, is denied the right to enter a college or university, apply for a job, take a civil service test, denied the right to ride on a plane, purchase insurance or eat in a restaurant simply on the grounds that he/she is blind, this constitutes unreasonable prejudice and discrimination. Such things happen.
- This is why the National Federation of the Blind has come into being. Blind people are now working as scientists,

farmers, lawyers, machinists, electrical engineers and secretaries. They are living normal lives as businessmen, housewives, mothers and teachers. The discriminations which exist are based upon a lack of understanding, not hostility.

This is why the National Federation of the Blind brings its story to the public, and this is why such tremendous progress is being made. For further information about our aims and programs or about blindness, write to Mr. Marc Maurer, President, National Federation of the Blind, 1800 Johnson St., Baltimore, MD 21230; phone: (301) 659-9314, or contact your local federation chapter. The National Federation of the Blind is the blind speaking for themselves with a positive voice.

As Years Go By

by Dolores Olson



Dolores Olson, former secretary of the Diabetics Division of the NFB tells of her 56 years with insulin dependent diabetes. "Learn as much as you can... We have to be our own physicians."

(Editor's Note: This article is reprinted from Volume 2, No. 1, Winter Edition of *Voice of the Diabetic*, with ages updated.)

We asked a very special member of our group, who has been an inspiration to us all, to write a little about what being a diabetic for (now) 56 years has meant to her. She graciously complied and "jotted down a few thoughts." We thought that it was worth printing in its entirety.

After 56 healthy years with diabetes, I am convinced that it is possible to be healthier with diabetes than without it — providing one follows the doctor's advice and adheres strictly to the diet-insulin-exercise regime. (Really, it is a lifestyle which every human being would do well to follow.) My diabetes was diagnosed when I was 12 years old and for two years my doctor prescribed a low carbohydrate diet without insulin, which was not conducive to proper growth. He then prescribed insulin, which had been discovered only 11 years before I became diabetic. That was 56 years ago, and I have fared very well ever since. When I entered college, I arranged to eat in the cafeteria rather than in the dormitory dining hall, so that I could select my foods more carefully. After graduation, I taught public school music before marrying the wonderful man with whom I have lived for 45 years. One of the greatest assets for a diabetic is complete family support. My husband has been very caring and concerned about my health and has been perfectly willing to eat whatever foods are best for me. He can often detect an oncoming insulin reaction before I am even aware of it myself — by the look in my eye or slowness in responding to his questions.

We have a lovely daughter who is 40 years old and two grandsons (13 and 8 years of age). At present none of

them has diabetes. I know of two cousins on my paternal side who developed diabetes later than I did.

After marriage I was employed as a secretary in five different locations until I retired in 1979. I never experienced any job discrimination because of diabetes. The only time I was absent from work due to diabetes was during the period of laser treatments for diabetic retinopathy, the only complication I have ever had.

My diabetic retinopathy started after 45 years with diabetes and has been successfully treated with laser photocoagulation. The retinal specialist considered it to be primarily caused by the duration of my diabetes rather than lack of control.

I feel that the major ingredients for good control are common sense and willpower. Learn as much as you can about diabetes. In a way we have to be our own physicians and be able to handle ourselves in any situation. We must learn to control our diet and insulin fluctuations. My dosage has fluctuated over the years by only a few units. I weigh the same as I did in my teens — about 112 lbs. Fourteen years ago I found that my age and activities required "less fuel" than before, so I gradually decreased my diet from 2100 calories to approximately 1500 calories per day.

Always inform your friends and associates that you are diabetic. Educate them about your potential for hypoglycemic reactions, so they will know what to do in the event you need help. It could save your life — it has saved mine! My favorite snack to carry with me at all times has been Brach's individually wrapped soft candy — or more recently, a packet of Monojel.

Wear an identification bracelet or chain. This also could save your life in the event of an accident.

Rotate your injection sites on a systematic basis. I have been fortunate to require only one daily injection, but even so, for 56 years that amounts to 20,440 shots!

Maintain a health diary on yourself. Even though the doctor may have your health history, you will find it valuable over the years to refer to your own handy diary. Keep a record of your insulin changes, any health problems, etc. Over a 56 year span, we have lived in many different areas and consulted many doctors, but I always have my own diary for reference.

Now there are so many educational opportunities for diabetics which did not exist 56 years ago. My chief source of information over the years has been the *ADA Forecast*, to which I have subscribed since about 1948, when this publication was in its infancy. More recently the *Diabetes in the News* published by Ames has been an excellent source of information. The American Diabetes Association *Family Cookbook* is really great for the entire family. The Diabetes Support Group Meetings are very informative.

If your child is the diabetic, send him/her to a diabetic camp to mingle with others who have a similar problem, to learn the benefits of knowledge and self-care and to have fun. When I was a child, there were no diabetic camps. I did not know another diabetic until I was in college.

With all the recent improvements in treatment of diabetes (such as self blood glucose monitoring) you have the advantage of much better control than existed before, resulting in even greater potential for a long, happy life with diabetes. Until three years ago I fared very well on the old method of urinalysis testing and blood sugar every three months. My doctor agreed at that time we need not change my method of control.

If I had a choice of serious illness, I would choose diabetes. We have the power to control it so much easier than those who have cancer, heart disease or countless other ailments. It is not exactly a normal life — but then whose life is??

ADDENDUM TO ARTICLE ON DIABETES IN APRIL 1984:

In 1985 I converted to home blood glucose monitoring with an AccuChek meter. Now I realize that it is the best

improvement in diabetes control since the discovery of insulin! As time goes by, my previous symptoms of oncoming reactions have diminished; therefore testing four times daily has been essential in order to reduce the number of insulin reactions, with which all of us diabetics are well acquainted. When we are incapable of treating our own reactions, we are placing a heavy burden on our life mates or friends — so it behooves us all to be as careful as possible.

Through a letter from the president of the Joslin Diabetes Center, I learned that some people are highly susceptible to complications despite good control of blood sugar. I fully realize now that my own good fortune with good health has been partially due to the fact that I am apparently numbered among the more fortunate who are less susceptible.

After serving from July 1987 to July 1988 as secretary for the Diabetics Division of NFB, I have learned what a very capable, dedicated group of volunteers we have administering our Diabetics Division and editing our *Voice of the Diabetic* newsletter. Especially Karen Mayry, our president, and Ed Bryant, our editor, who have truly been an inspiration. My year as secretary was one of the most gratifying of my life.

Beating Diabetes

by Arnold Schechter

(Note: This article is reprinted from *Modern Maturity*, April-May 1988, a publication of The American Association of Retired Persons, with permission from the author. Arnold Schechter writes frequently on medical topics. In 1985 he won an American Diabetes Association National Medical Award.)

As Stella Fineberg parked in downtown Allentown, Pennsylvania, the ice cream was real in her mind: a moist vanilla mound studded with bittersweet chocolate chips.

"Let's walk to Haagen-Dazs," she suggested to her sister Pearl.

"But Stella," Pearl protested, "what about your diabetes? The doctor told you fewer calories and more exercise."

Stella grimaced, then relaxed into a rueful smile. "Okay," she said. "But let's still take a walk—a long walk in the other direction."

No major disease is more insidious than diabetes. It can strike suddenly or, more often, lie undiagnosed for years, silently attacking your body through blood vessels and nerves. As a group, diabetics are far more often afflicted with blindness, heart disease, stroke, kidney disease, hearing loss, gangrene and impotence than the general population. Diabetes and its complications are a leading cause of death in the U.S., and one-third of all visits to physicians are related to the disease.

Fortunately, however, if you develop Type II, the more common form of diabetes, you have an excellent chance of controlling it—or even reversing its

course. In short, with a combination of though the evidence is not conclusive," he says. "Other factors, such as genet-expert medical help and self-discipline, the odds are you can beat diabetes.

When sugar Isn't sweet

Diabetes severely disturbs the way the body uses food. During digestion sugars and starches normally are turned into a form of sugar called glucose, and the pancreas produces a hormone called insulin that makes the glucose available to the body's cells for energy.

In Type I diabetes the pancreas produces little or no insulin, and the diabetic must inject insulin every day to survive. About one million people in the U.S. have this form of the disease, which comes on quickly, most often during adolescence.

Type II diabetes afflicts some 10 million people and usually develops after the age of 40. Here the pancreas produces some insulin, but the insulin is insufficient or its action meets resistance from the body's cells (or both.)

In any form, diabetes leads to elevated levels of glucose in the blood, and this prolonged high blood sugar seems to be the biggest culprit that causes blood vessel and nerve damage. At the National Institute of Diabetes and Digestive and Kidney Diseases, Robert Silverman, M.D., Ph.D., is following a number of research projects on the cause of diabetic complications. "I believe there is a link between elevated glucose and these complications, al-

(Continued on page 12)

Beating Diabetes

(Continued from page 11)

ics and reduced blood flow, may also play an important part."

You win by losing

The number-one weapon against Type II diabetes is a low-calorie, balanced diet because four times out of five, obesity triggers the onset of the disease. The "Diabetes in America Study" conducted by the National Diabetes Data Group revealed that people 10 to 15 percent overweight have nearly twice the chance of developing Type II diabetes, as compared with those who are not overweight, while those who are overweight by 25 percent or more are at over three times the risk.

"Obesity seems to lead to diabetes by increasing the body's resistance to insulin," says Norman Ertel, M.D., chief of medical service at the Veterans Administration Medical Center in East Orange, New Jersey. "Although the body produces a normal amount of insulin, it resists the action of that insulin. To compensate, the pancreas works extremely hard to make additional insulin. But some years down the line, insulin production falls and diabetes results."

Simple weight loss can improve both insulin production and the body's sensitivity to insulin. This alone can reverse the development of diabetes or reduce its severity.

While weight loss is the top priority, the types and proportions of foods eaten by a Type II diabetic can greatly affect his or her already high risk of developing complications. The American Diabetes Association (ADA) has been studying this crucial topic, and last year revised its nutritional guidelines for the first time since 1979. They now call for:

•Lower protein intake. This may

decrease the risk or severity of kidney disease. The ADA recommends 0.8 grams of protein daily per kilogram of body weight—about 44 grams for a 120-pound person and 54 grams for a 150-pound person.

•Lower fat intake. This is to reduce the risk of blood vessel and heart disease. No more than 30 percent of calories should come from fat, and cholesterol should be limited to 300 milligrams daily. Saturated fat (primarily animal fat) should be limited to 10 percent of calories.

•Higher carbohydrate intake. This also seems to reduce the risk of blood-vessel and heart disease. No more than 5 percent of carbohydrate calories should be from sucrose, the simple sugar that is the sole nutritive component in many soft drinks and candies. Sucrose can drive blood sugar up too quickly. The emphasis should be on unrefined complex carbohydrates such as fruits, dried beans, vegetables and oats. These fiber-rich foods have several significant benefits.

James W. Anderson, M.D., a professor of medicine and clinical nutrition at the University of Kentucky, reviewed more than 100 reports on the effect of high-fiber diets on Type II diabetes. The studies indicated that, in general, an increase in complex carbohydrates and fiber improves glycemic control for diabetics and may, especially for Type II patients, reduce insulin needs. High-fiber, high-carbohydrate diets also lower serum cholesterol and triglyceride values, tend to lower blood pressure and promote weight loss.

However, Phyllis Crapo, R.D., a leading researcher and dietitian at the University of California at San Diego, cautions against overdoing it. "The goal is adequate fiber, not high fiber. Too much fiber may potentially cause vitamin malabsorption and intestinal blockages."

•Lower salt intake. This will moderate blood pressure and thereby reduce the risk of stroke, kidney disease, heart disease and damage to blood vessels in the eyes. Salt should be limited to 1,000 milligrams per 1,000 calories.

•Lower alcohol intake. Greatly limiting the amount of alcohol you drink will reduce the risk of heart disease and nerve damage. Alcohol also can cause effects like nausea and dizziness when taken with oral diabetes medication.

All these are general guidelines. Individual nutritive needs can vary greatly, so every diabetic should consult his or her health-care team for specific dietary guidance.

One topic not in the ADA report is worth noting: smoking. Silverman warns, "Smoking constricts flow in blood vessels, and thus is implicated in diabetic complications like cardiovascular diseases."

Work out—and relax

In most Type II diabetes treatment programs, exercise can be incorporated as a partner to proper diet.

"It can be a plus in several ways," says Edward Horton, M.D., chairman of the Department of Medicine at the University of Vermont College of Medicine. "Exercise increases your energy expenditure, so it helps you lose weight. Regular physical activity can improve your body's sensitivity to insulin and lower your average blood-sugar level, cholesterol and triglycerides, especially when you combine exercise with dieting."

Stress reduction is yet another weapon that can be used against Type II diabetes. Stress can have a triple-whammy effect on the diabetic: It can raise blood sugar by releasing hormones that make glucose and fatty acids available to the body, inhibit insulin production, and probably contribute to insulin resistance in the

body's cells.

At Duke University Medical Center, Richard Surwit, Ph.D., professor of medical psychology, and Mark Feinglos, M.D., associate professor of medicine, found that Type II patients trained in progressive relaxation were able to lower their blood sugar while practicing the technique.

Surwit and Feinglos now use a three-pronged stress-reduction program. They teach patients to recognize the symptoms of stress such as rapid heartbeat and perspiring hands, give patients an audiotape and manual with which to practice progressive relaxation at home, and teach biofeedback procedures so patients can tell whether they are using the technique properly.

Medications for diabetes

Often a Type II diabetic's doctor must go beyond suggesting lifestyle changes. Many older patients are thin, so a weight-control program, for example, won't help. In many of these cases, the pancreas is losing its ability to produce insulin, and the only alternative is pills or insulin injections.

"Medications don't work in all cases and some may lose effectiveness over time," says Loren Lipson, M.D., chief of Geriatric Medicine at the University of Southern California School of Medicine. "But pills can boost insulin production and help glucose metabolism. Too much, though, may cause drug reactions. Insulin injections lower blood-sugar levels but also increase appetite. The goal is to control the patient's condition, not overcontrol it."

So until a cure for diabetes is found, the best path for most Type II diabetics is simple: self-control. You don't have to deprive yourself totally. But when in doubt, forget the Haagen-Dazs and take a long walk in the other direction.

Eating Well Even More Vital to Diabetics

by Ellen Creager
Knight-Ridder Newspapers

If heart patients have to be careful about what they eat, people with diabetes have to be twice as careful.

"Doctors usually provide diabetics with a lot of 'don'ts,' or just a sheet of paper and a book," said L.E. Smith, clinical nutritionist and co-author of "Menu for Life."

"In my experience, most diabetics are not very well directed as far as diet goes. Many older cookbooks for diabetics are too low in complex carbohydrates and too high in protein," Smith said.

The correct diet for people who have diabetes is not just one low in sugar, experts say, but one that moderates cholesterol, fat and in some cases salt.

"Just about every diabetic who is out of control (whose blood sugar levels are too high), down the road is a candidate for cardiac problems," said Smith, a registered dietitian who counsels people with diabetes at the Meadow Brook

Health Enhancement Institute at Oakland University in Rochester, Mich.

"The ones I see at the institute have come out of (eating) situations that are just abominable." The Institute combines a program of diet, exercise and behavior modification to help patients control their weight, lower insulin levels and get off medication, Smith said.

Technically, a person with diabetes can use any cookbook, as long as he or she knows how to convert a recipe to the exchange system.

For people on special diets, the exchange, or substitute, system makes diet planning easier. Foods are grouped into six categories: vegetable, fruit, dairy, bread and starchy vegetables, meat, and fat. Each category has an exchange list, so that a certain quantity of one item is equal to another. For example, one fruit unit equals 1/2 cup orange juice, or one small apple, or one medium nectarine. One fat unit equals

one teaspoon olive oil, one ounce chocolate or 10 peanuts. The amounts permitted in each category vary according to individual conditions, as determined by a physician.

Exchange lists were first published in 1950 by the American Diabetes Association to simplify life for people with diabetes, who previously had to weigh and measure all their food. The lists were revised in 1986 to include updated findings on sodium, fat and fiber in the diet. Many new health-oriented cookbooks contain exchange lists.

Exchanges, however, are useful only if you understand and faithfully follow the system.

"Of all patients, diabetics should be the most highly trained in the use of exchanges," said Gwen Dorazio, dietitian and coordinator of Health Promotion at the Henry Ford Hospital Heart and Vascular Institute in Detroit. Even

when people with diabetes use a new cookbook that contains exchange values, "They should test a couple of recipes for the accuracy of exchanges," she said.

The American Diabetes Association (ADA) has published several cookbooks. Its *Family Cookbook I* and *Family Cookbook II* were revised in 1987 to reflect newer dietary guidelines, said Mary Wilkins of ADA. A new *Family Cookbook III* contains recipes for microwave and ethnic dishes. (All three are published by Prentice-Hall at \$16.95 each.) There's also the *ADA Holiday Cookbook* by Betty Wedman, published in 1986 (Prentice Hall, \$14.95).

Marcia Mazur, associate editor of *Diabetes Forecast*, an ADA publication, said she reviews new cookbooks for their appropriateness for people with diabetes.

(Continued on page 14)

Blindness: A Matter of Perspective

by Barbara Walker



Barbara Walker, President, National Federation of the Blind of Nebraska, explains the value of a positive perspective.

(Editor's Note: This article appeared in *News From Blind Nebraskans*, Fall 1988, published by the National Federation of the Blind of Nebraska.

Barbara Walker is a role model. She is living proof that blind people can function with a positive perspective and, as a result, lead an active, productive life. Blindness does not mean inability.)

"I had a headache this big! I took two Excedrin, and now it's gone." Based on these words from a recent television commercial, what's gone—the headache or the Excedrin? It depends, of course, on your perspective. Most things do, including the way you deal with blindness.

But perspective doesn't have to be a stagnant thing. Take, for instance, my perspective on travel and the use of the long white cane. As a child seeing minimal color, no object in depth perception, and with an immeasurably narrow field of vision, I was encouraged to use my sight for detecting contrasts between, for instance, a sidewalk and grass. As I grew, and the distance between my head and the ground increased, I began to use other things—following directly behind someone else, foot shuffling, quick reflexes which allowed me to miss a step and still land on my feet at the bottom, walking with one foot on the sidewalk and one on the grass, etc.—to get places. When I was introduced to the cane in junior high, I was told that I wouldn't need it in familiar surroundings, but should take it other places as a signal to drivers to stop for me, to pedestrians to move out

of my way, and to anyone who saw that I might need help. I kept it with me as little as possible and used it as quietly and as inconspicuously as I could. I carried this perspective through adolescence, through college, and into a job training the adult blind.

In December of 1974, accepting an opportunity to broaden my scope professionally (and personally) to verify my belief that the National Federation of the Blind and the Iowa Commission for the Blind probably weren't all that they were cracked up to be) I visited the Iowa Commission for the Blind. The perspective I gained, from a few short days in an environment where the bottom line was that it is respectable to be blind, genuinely changed my life. With specific respect to cane travel, I began to always use my cane in unfamiliar places and often in familiar ones; especially at work, where I was a role model. And I discovered how much simpler it was to detect with one confident sweep of the cane the identity of something which, if I noticed it visually at all, might have been a hole, a shadow, a mud puddle, or a dark-colored object. And I now do everything I can to encourage parents and educators of blind children to get a white cane—a tool for truly independent travel—into those children's hands as early as possible.

Knowing that it is respectable to be blind also changed my perspective on other things. As a blind adolescent and college student, I was advised neither to date nor to spend too much time with blind friends, but rather to cultivate friendships with sighted people. One of the stated reasons for this was that I should avoid the potential of falling in love with a blind man because, in such a relationship or marriage, who would read things, drive, and do other essentials? Although I didn't totally buy into that perspective, it did affect me to the extent that I saw myself as an unlikely partner for anyone.

With my change in perspective about my blindness came a change in my approach to others, and theirs to me. As I gained self-confidence I earned respect from others. Blindness itself was no longer a liability in my own mind. But people's attitudes about blindness, including my own, were of utmost importance to me in developing and maintaining relationships.

The man I married almost ten years ago believes that it is respectable to be blind. We get where we want to go. We get things read. We do all those other essentials which were said to be so out of the question for blind people.

And we are both blind. I am now a homemaker and mother in addition to being President of the National Federation of the Blind of Nebraska. My husband, Jim, and I have two small children. Marsha JoAnn was born on July 2, 1981, and John Peter arrived on November 16, 1983.

My Inlook Brightened

by Denise J. Bradley



Denise J. Bradley, a long-time diabetic, tells how she went blind and how she took control of her health and life.

While studying in my dorm room one night during my junior year of college, I nonchalantly reached up to brush a strand of hair from my eye. Three times I tried brushing it away, but each time I resumed reading, the distracting hair was still there. I was a little frightened because I thought something might be wrong with my eye, but I couldn't imagine what. Rather than worry, I decided to stop studying for the night and see an ophthalmologist in the morning.

The next morning the doctor explained that the object I had seen was not outside my eye, but was actually inside my eye and was called a floater. A floater is a bit of blood that has leaked from one of the blood vessels in the retina into the vitreous humor (jelly) part of the eye. Since the vitreous body is supposed to be clear, any foreign matter inside of it focuses on the retina and is seen as if it were outside the eye. He said my eyes would have to be watched closely.

The doctor's explanation fascinated rather than worried me. Since the floater was in my peripheral vision and was more of a nuisance than a hindrance to seeing, I decided I could put up with it.

After all, I had bravely accepted many side effects since my Type 1 diabetes had been diagnosed when I was 11 years old. I had never really understood diabetes or why it was important to stay in control. As a result, I suffered in silence with yeast infections, neuropathy and an addiction to food. I was afraid that if I complained too much about my diabetes, someone would find out about my terrible problem with overeating.

Diabetic retinopathy, a disease in which the small blood vessels of the retina grow and leak blood, had been diagnosed in my eyes three years earlier. As a result, I had to wear glasses at night. Many people wear glasses at night so my problems didn't seem worse than anyone else's. Little did I know what trouble that innocent floater would cause.

Within six months, I had the first of many photocoagulations, an operation to stop the bleeding in the retina, on my eyes. I also had numerous bouts of iritis, a painful inflammation of the eye causing sensitivity to light. Ironically, because eye drops relieved the pain so quickly, I failed to take the iritis seriously. My vision was decreasing so slowly that I barely noticed it, and I never took it as a sign of potential problems down the road.

Gradually I had to wear my glasses for distance seeing in the daytime. I also used sunglasses a lot and squinted—whatever it took to adjust. I even used a magnifying glass to take exams and to complete a drawing class. The artwork was tedious, but I was so pleased at how my drawings turned out.

By the time I graduated, I had had two more laser surgeries and an increase in floaters. They became a part

of my life and I learned to live with them. After college, I lived alone in an apartment and did well. I rode a bike for transportation, shopped on my own and carried my trusty magnifying glass with me at all times.

The job I had was ideal because it required little reading. I was an assistant at a residence for handicapped children, and I loved it. Whereas my diabetes was a subject I avoided talking about, I was never embarrassed to talk about my eyes. The people at work were friendly and supportive and interested in my vision loss. Yes, I got some attention and sympathy, but the important thing was that I developed a sense of humor about my problems. This not only helped my attitude, but I noticed it made the others feel comfortable around me and allowed them to joke and talk with me. I began to feel at ease with my new identity as a visually impaired person. I felt their equal and that strengthened my self-image. I was happy with my life.

The crisis point in my vision loss came just a year later, when I awoke one fall morning. Both of my eyes were filled with masses of stringy, black floaters which swam across my center vision each time I moved my eyes. I cried and was extremely frightened. The night before I could fill my own insulin syringes and now I could not. Thankfully, a friend was there with love and support.

Surprisingly, my eye doctor told me that he felt the appearance of the floaters did not indicate more surgery. He said that they would be reabsorbed from the vitreous body into my eyes. Over the next few months, they appeared to break up into thousands of tiny black dots and spread uniformly throughout my field of vision. They remain today.

During this time, any diabetes control was put on hold as I became totally consumed with my vision loss. I was now legally blind. Losing so much sight all at once was like losing a loved one. I went through all the stages of grief. I became angry if I dropped something and could not find it, or if I tripped on a

(Continued on page 14)

(Continued from page 13)
 sidewalk. Sometimes I felt jealous if others saw something on television which I missed, and I was frustrated that I could no longer read. Other times, I felt guilty and accepted my loss as my due for ignoring my diabetes. I was restricted and did not venture far from my apartment unless someone was with me.

A wise friend suggested I contact Services for the Blind. I met with a counselor and two major events happened which really turned my life around. The first was the Talking Books program, a program of recorded books for the blind. It had been a long time since I had read a book without struggling, and now I joyfully devoured all the books I could, especially on humor and philosophy. I had not realized how hungry I was for the written word.

Listening to books did something else for me—it made me think. While my outlook had dimmed, my outlook had brightened. I became introspective and spent hours contemplating the meaning of life and why my life and health had turned out the way it had. I began to feel almost privileged that I was viewing the world as few other people did. Not as a sighted person, not as a blind person, but somewhere in between.

The other important event in my life was the Mobility and Orientation Training program. At first, I objected. I insisted that I wasn't blind, but the instructor persuaded me that the training would help me to better use what vision I had, and it would be my choice whether to keep using a cane or not. I was exuberant about the training, to find out how much I could do and do well. Learning to get around the house, neighborhood, city, across busy streets, and take buses all by myself made me feel truly alive! I had never felt this free and independent—not even when I had first learned to drive a car. Through the better use of my sight and my other senses, I felt I was being reintroduced to the world in a unique, special way.

Eating Well

(Continued from page 12)

"Of course, I can't tell people not to use other cookbooks, but cookbooks that contain exchanges are much easier for diabetics to use," she said.

"People think it's just sugar, but because people with diabetes are more prone to problems associated with high cholesterol and high fat, they have to be careful. It's not as simple as it sounds. For (the 10 percent of diabetics) with Type I diabetes (people whose bodies produce no insulin), diet is important, but it's quickly clear if your diet is wrong. Type II diabetes (people whose bodies produce insulin, but not enough), what we used to call adult onset, very often goes with obesity. For Type II, it takes a long time, sometimes years, to control it through diet."

For information on exchange lists or nutrition programs for people with diabetes, get in touch with your local American Diabetes Association's affiliate.

So many funny things happened, too. One time I was ordered removed from a courtroom, where a friend and I were watching the proceedings of a murder trial, because someone on the jury thought my folded-up cane was a weapon.

Two years had gone by since I had worked, and now I was feeling powerful and competent again. I accepted a job offer to teach multiply-handicapped children. What a thrill to do work I liked and get paid, too!

As accomplished as I was becoming with my "new" vision, I still had never come to terms with my diabetes, and during my third year of teaching, my body rebelled. I was hospitalized several times with acidosis, and for surgeries on my foot due to gangrene and on my eyes for cataracts and glaucoma. I eventually lost my left eye. I started to feel hopeless and discouraged.

Accepting the side effects and having a good attitude about my vision was no longer enough. I had to do something to take back control of my health and life. Finally I acknowledged that the key to it all was knowing what my blood sugars were and keeping them in a safe range. I had been aware of home blood glucose monitoring, but I could never bring myself to prick my finger directly with a lancet. I called around and discovered that Autolets had just arrived on the scene. I was one of the first in New Mexico to obtain one. I worked with a nurse educator who taught me how to test my blood, which I began doing faithfully four times a day.

After my foot healed from the surgeries, I quit using a wheelchair and crutches after six months. It was so exciting to be walking again that I began to take an interest in exercise. My enthusiasm in this area eventually led also to dieting and eating healthier. I also started charting my blood sugars, how much I ate and when, and when I exercised. This helped me guard against extreme highs and lows in blood sugar.

My energy level soared and pounds began to fall away. It seemed like magic how healthy I became, but it wasn't magic. It was the natural result of taking action in my own self-interest. I believe if I had taken this action and changed my attitude years earlier, I could have prevented most of the damage to my body.

Of course there were the things I would not be able to change or reverse, such as the loss of my eye, the deformed part of my foot, or the loss of feeling to my feet. But I no longer heal slowly or have itching and burning skin, and my circulation is good. I no longer end up in the hospital emergency room. Best of all, I see myself as a healthy person who can do anything I want.

I decided to write a book and share with other diabetics and their families all I had learned about taking responsibility for my own life and how they could too. It took me five years to write and publish my book. In that time, I became a better writer and learned persistence, confidence and—something I did not expect—public speaking. Accepting what I have to do to remain healthy and doing it with a winning attitude has saved my life and turned it around.



Recipe Corner

Carrot Cake

Submitted by Linda Carstens from Virginia, MN

4 eggs
 1 1/2 cup oil
 3 tsp. cinnamon
 2 tsp. soda
 1 tsp. salt
 2 Tbs. vanilla
 2 cups flour
 3/4 cup frozen apple juice (thawed and no sugar added)
 3 cups grated raw carrots
 1 cup raisins
 1 cup chopped walnut

Beat eggs, oil and apple juice. Sift together dry ingredients. Add to mixture. Stir in carrots, raisins and 1/2 cup walnuts. Spread on greased 9x13 pan. Sprinkle remaining 1/2 cup walnuts over top. Bake at 325 degrees for 40 to 45 minutes until done.

(Note: Ken, Linda's husband, says the carrot cake is really great, especially when warm.)

Yield: 30 slices; Calories: 185 per 1 slice; Diabetic Exchanges: 3 fats, 1 starch.

Diet Egg Nog

Submitted by Anonymous

3 eggs, separated
 3 Tbs. artificial sweetener
 1 pinch salt (if desired)
 3 cups skim or low-fat milk
 1-2 Tbs. powdered milk or coffee creamer
 3 Tbs. bourbon extract (to taste)
 3 tsp. vanilla

Beat egg yolks and sweetener and salt; mix well. Mix milk and powdered milk together until dissolved. Add bourbon extract and vanilla and blend in blender until extra smooth. Whip egg whites until frothy and fold or stir into mixture. Chill and serve with a dash of nutmeg or cinnamon on top.

Yield: 3 9 oz. servings; Calories: 170; Diabetic Exchanges: 1 skim milk, 1 med. fat meat.

Playtime Doh

Submitted by Susan Ford from Maplewood, MO

1 cup flour
 1/2 cup salt
 2 Tbs. creme of tarter
 Mix thoroughly. Add 1 cup boiling water and 1 Tbs oil, knead and add food coloring, if desired.

(Note: Susan says if you don't mind a mess, the children will love to help mix this creation.)

1 pkg. 8 ounce low calorie cream cheese (softened)

1/2 cup plain low fat yogurt

8 pkgs. of artificial sweetener

1 tsp. dried lemon peel

1 tsp. vanilla extract

Combine cream cheese and yogurt.

Blend until smooth. Stir in remaining ingredients. Chill before putting on cake.

(Note: Linda says this frosting is tart, and is not for everyone.)

Yield: 30 (1 cake); Calories: 25; Diabetic Exchanges: 1/2 fat.

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Good Morning Americans

by Paul Harvey

(Note: Paul Harvey is a news commentator for CBS radio and his daily commentaries are heard world-wide. After speaking in Chicago at the annual Convention of the National Federation of the Blind in July, 1988, he broadcast the following piece.)

Of all the disabilities that flesh is heir to, the one most dreaded is the loss of eyesight.

And of all of those who are different from what we consider "normal" we have the most, and the most universal, compassion for the blind.

They appreciate that. But the rest of you—don't be more solicitous than is comfortable for you or useful for them.

I learned tardily about the phenomenal independence of blind people recently when I was invited to address the largest-in-the-world convention of 3,000 blind people in Chicago. Let me share with you some of what I learned.

When addressing a blind person there is no need to raise your voice nor to address him as though he were a child. Don't ask his spouse whether he wants cream in his coffee; ask him.

He or she may use a white cane or a guide dog, or in traffic he may ask to take your arm. Let him decide. Do not grab his arm. Let him take yours. Or he may prefer to lay his hand on your shoulder while he walks a half step behind to anticipate curbs and steps.

The blind person wants to know who else is in the room, so speak when you enter and introduce others, including children. And tell him if there is a cat or a dog.

And remember that a door left open or a cabinet left open is a hazard to those who cannot see.

At dinner, if you will relax, he will have no difficulty with ordinary table skills.

And don't avoid such words as "see." He uses them, too. He is always "glad to see you."

Don't talk about the wonderful compensations of blindness; there are compensations but they're nothing you'd know anything about.

If he is a guest in your home, show him the location of the bathroom, the closet, the dresser, the window and the light switch.



And don't think of him as a blind person, but rather as a person who happens to be blind.

I have recently visited with blind individuals whose courage shames mine—some who are rock climbers and karate experts. One of whom braved the stormy Pacific alone in a sailboat—with only braille charts and a braille compass to guide him—and made it!

And perhaps more significantly, I saw them navigate the transportation and traffic of Chicago with grace, dignity and cheerfulness.

So dependent are most of us on our eyes, so enraptured are most of us of a sunset or a sunrise, that we dread, perhaps more than anything, the endless dark.

And yet, when there is an experience we really want to plant indelibly on our awareness, when there is an experience we want ultimately to enjoy and permanently to remember—a measure of magnificent music, perhaps, a flavor or a fragrance or a kiss—we close our eyes.

The National Federation of the Blind—with vigorous leadership—is helping its members to understand better their job opportunities, and their legal rights, and is helping the rest of us to recognize how selective we have been in our concerns.

Americans somehow imagine that the "good neighbor" philosophy obligates us to assist those farthest from home often to the neglect of the neighbor right next door.

We weep crocodile tears over discrimination in South Africa, yet applaud sheltered workshops in our own country where blind people are allowed to make brooms for a dollar an hour.

Selective indignation:

Americans and their courts make much to-do about equal rights for every race, religion and sex, and yet will allow blind Americans only back-of-the-bus seating on many airliners.

Ever so carefully our politicians make certain that the homeless and the junkies have help and that convicts are made comfortable while dues-paying, behaving blind persons are having their children taken away from them by misguided "social workers."

We must be ever so careful that we do not offend athletes by invading their privacy and checking their urine for drugs. Yet, Kristen Krouse of Rutgers University, a champion equestrian athlete, is barred from national competition because she is blind.

Make certain, our misleaders insist, that employment opportunity is better than fair for some Americans who are "disadvantaged," yet employers, including some of the biggest, still find reasons not to hire the work-able blind.

Prove it?

Today we celebrate a national unemployment rate of less than seven percent. Seventy percent of employable blind are without jobs!

Election year legislation guaranteed that employment must be expanded for

everybody. Everybody?

In Illinois, rehab agencies distributed billions of taxpayer dollars while denying services to the impoverished blind.

Americans are made to feel guilty and spend the millions to rescue some endangered species of snail darter or bottle-nose lizard, while cruise lines refuse to book passage for the blind, and insurance companies—despite state laws which state otherwise—may refuse to sell them coverage or charge extra if they do.

At enormous expense we will send translators halfway around the world to help some tribe re-write books in its native language. Yet, American educators, even American educators of the blind, force the blind to use what little sight remains rather than teach them in braille, which they can read.

During a Chicago convention of the National Federation of the Blind, I learned to respect blind people more than ever, but never ever to pity them again.

Drawing Up Insulin When You're Blind is No Big Deal

by Betty Walker

Author's Note: I am assuming that most readers have some knowledge of the procedure used in drawing up insulin, and therefore, the following will not be a detailed description of my method.

I have been diabetic for 30 years since the age of five. For 14 of those years, I have been blind. Throughout the year that I lost my sight, I found it increasingly difficult to draw up my own insulin until I found an insulin gauge from Meditec, Inc., of Englewood, Col. This gauge is simply a piece of plastic which lets you know how far to pull the plunger out on a particular dose of insulin. It is designed for the B.D. Plastipak disposable syringe #8410, for U-100 insulin. The gauges are marked in either braille or raised large print and are available in even units from two to 100.

Using this type of insulin gauge, I draw my insulin in the same way I did when I was sighted, with a few alternative techniques. I use both NPH and Regular insulin, so I place a braille R made of dymo tape on the Regular insulin bottle. Other methods may be used, such as a piece of tape or an elastic band. I use the gauge to pull the plunger out for the correct amount of air to inject into the bottle. I do not have any difficulty finding the center of the bottle to place the needle into it. After pushing the air into the bottle, I use the gauge to draw out a bit more insulin than is needed for the dose. I tap the syringe to allow the air bubbles, if any, to move to the top of the syringe. With the syringe and bottle in one hand, I place it near my ear to hear the air make its way back into the bottle. If it sounds like there is quite a lot of air, I push the insulin back into the bottle and draw it out again. You can tell when the bottle is empty or nearly empty by rolling it between the palms of your hands to mix the insulin. It feels lighter when there is less insulin in the bottle.

For injection sites, I usually use my upper arm, thighs or buttocks. I do not concern myself with worrying about



Betty Walker is a leader in the National Federation of the Blind of Missouri. She shares that being blind and drawing up insulin is not complicated.

injecting into a blood vessel, as I rarely do so when I was sighted, and rarely do so now.

I would like to give encouragement to those blind diabetics who do not draw up and inject their own insulin. Drawing up and injecting insulin for the first time as a blind person is like the very first time as a sighted person. Just keep your attitude positive and say, "I can do it." I never say "can't" unless I have tried it first.

If any reader has questions, wants details, or needs support, feel free to contact me: Betty Walker, 1826 Mississippi St., Jefferson City, MO., 65101; (314) 634-7969.

Self Management for the Blind

by Ed Bryant

In my conversations with rehabilitation employees from different parts of the country, I sometimes find that they do not believe that a blind diabetic can be independent. How unfortunate. Sometimes the people who are paid to teach the blind independence fail to do so. Being shown alternative techniques is essential if one is to become active in the mainstream of society. Part of what *Voice of the Diabetic* attempts to do is show all people that being blind is not the great tragedy it is often thought to be.

Recently I received a tape of a survey developed by the Oregon Commission for the Blind. The survey was developed by the Commission in conjunction with blind diabetics who manage their own disease through alternative techniques. The purpose of the survey was to inform other blind diabetics of the different techniques that they can use to self-manage their diabetes and lead active lives. Following are the questions that were asked, and my own responses.

1. How long have you been a diabetic?

I've been a diabetic for about thirty years.

2. How long have you been blind?

About twelve years.

3. When did you start using insulin gauges to draw your own insulin?

About nine years ago. When I first became blind, I did not use gauges because I did not realize that gauges were available. My mother drew a seven-day supply of insulin for me every week, but this prevented me from being the independent person I always was. I did some investigating and discovered that there were gauges available that would allow me to draw up my own insulin. Naturally, I purchased one. But these gauges were expensive. So after a while, I designed my own insulin gauge, which I later had custom-made. I have been using this gauge for several years with no problems.

4. Do you mix your own insulin?

Yes, I mix my own insulin. Currently, I use Human-Regular and NPH insulin.

5. What were some of your questions and concerns about self-administering insulin as a blind person and how did you resolve these questions?

I had questions and concerns, as do most diabetics who go blind, like:

-- How to know when an insulin vial is getting low

There are many methods you can use to figure out how long a vial will last. For example, each time you use a vial of insulin, gently shake it. With practice, it will be easy to determine if it is full, half-full or nearly empty. You are probably using U-100 syringes. If you are, you should be using U-100 insulin.

Each vial of U-100 insulin contains 1000 units.

-- When to replace an insulin vial

When I open a new vial of insulin, I carefully calculate how many days that particular vial will last. For example, I use a total of 20 units of Regular insulin daily. If I were to divide the 1000 units (10 cc) of a new insulin vial by the 20 units I use daily, one vial would last me about 50 days. But I must be careful that in drawing out the insulin, I do not inadvertently draw out air. So, as a safeguard, I assume that the new vial only contains 900 units (9 cc) and will only last me 45 days, instead of 50. As long as there are at least 60 units of insulin in the vial and the diabetic is careful about keeping the vial in a straight up-and-down position while drawing out insulin, there is no danger of drawing out air.

Another way of keeping track is to set aside the number of syringes that will be needed for 900 units of insulin. You could use any objects, such as toothpicks, straws, etc.

-- Discarding vials of insulin that have 60 to 100 units of insulin remaining

After using up a new vial, the insulin in the old vial can be drawn out and transferred. This will save money, but there is one caution. After a period of transferring insulin, the insulin will become outdated and should not be used. If people want to use this procedure, they should make sure that the insulin they're using has not expired.

-- How to be sure an insulin gauge is measuring insulin correctly

The first few times I used my insulin gauge, I had a sighted person who was used to working with insulin syringes check it for accuracy. I had had absolutely no problems, but all diabetics must have a method to "keep an eye" on their diabetes. Blood glucose monitoring is now the "in" thing to be sure that you do not have too much sugar in your bloodstream and/or do not have too much or not enough insulin in your system. It is reported that insulin gauges are more accurate than sight because when you push the plunger to the gauge tightly, you get the same amount every time. Sometimes with vision, people don't always get it on the same line. All syringes are mass produced and although there is quality control, there are some errors made in syringe markings, and they are not exactly in the same spot all the time.

Then there is always the human element. People are often in a hurry, are sometimes careless, and are not always accurate in drawing up insulin.

-- The possibility of inserting the needle into a blood vessel

Actually, your chances are minimal since injection sites are in fleshy areas. Insulin needles are short, and the worst you could do would be to hit a small capillary. This would result in a slight area effused with blood, which is called

Documentation is Needed for Insurance

Blind diabetics, like sighted diabetics, need to keep their diabetes in good control. The first step is to check insurance policy(s) carefully. Many insurance carriers, be they private, Medicare, and/or Medicaid, will pay in part or in full for instruments that enable the blind to self-manage their diabetes. Some insurance policies state that the insurer will pay for durable devices such as audio-output meters and insulin gauges.

To obtain special devices under an insurance policy, the need must be properly documented by a physician. The physician must specify that the patient is blind or visually impaired and requires a blood glucose monitor with audio output and/or a special insulin gauge to keep their diabetes in good control. The physician's letter should state that the equipment is not experimental, is necessary for control and may help minimize and/or prevent complications. Following are two examples of letters with pertinent data that health care professionals should review in documenting patient needs to insurance carriers.

Dear Medicare, Medicaid, or Insurance Provider:

I am writing to request and recommend in the strongest possible terms that you approve funding for the purchase of a non-experimental audio-output glucometer and a special gauge for insulin syringes needed by my patient John Doe. Mr. Doe is a visually impaired diabetic of X years duration, who has already suffered the diabetic complication of blindness. It is imperative that he be able to monitor his blood glucose levels and independently draw up his insulin. The inability to do so will probably result in his declining health, leading to future hospitalizations, additional office visits and greater complications of his diabetes.

I strongly recommend your attention to this matter, as it is a necessity for enabling Mr. Doe to lead a healthier life.

Sincerely,
Tom Helpful, M.D.

TO WHOM IT MAY CONCERN

RE: John Doe

Dear Sir:

The above named gentleman is a patient of mine and has had diabetes mellitus for approximately thirty years. He is totally blind due to diabetic retinopathy. In order to control his diabetes, which is treated with a six-feeding diabetic diet and a two-dose insulin regimen, it is necessary for him to do blood glucose measurements at home. This is extremely difficult because he is unable to see the output on the usual blood glucose monitors and thus requires someone else to do them, which means that he seldom tests. Because of this problem I recommend that he obtain a home blood glucose monitor with audio output. I feel that this is a medical necessity in terms of taking care of his diabetes, and should be considered as such, not a luxury.

If you have further questions please feel free to call me.

Sincerely yours,
Tom Helpful, M.D.

a hematoma. Again, it is unlikely that the needle will be inserted into a small blood vessel, and insulin entering the blood stream via a capillary would not be in a dangerous amount.

-- How to get the air bubbles out of an insulin syringe before using it

As a blind diabetic, I have successfully drawn my own insulin without air bubbles for several years. I mix the insulin and when I draw from the first vial I draw a little insulin into the syringe, then inject all of it back into the vial. I can feel the air bubbles as the insulin returns to the vial and often, I can hear them. This procedure is repeated three or four times, followed by flicking the

syringe several times near the hub with my fingernail to dispel any air present. I then slowly draw the full amount of insulin needed from the first vial. When I draw insulin from the second vial, I slowly draw the exact amount needed and then again flick the syringe a few times with my fingernail. I have had this checked several times and there have never been air bubbles present. Air that is in the syringe needle is injected out of the needle during the procedure used with the first vial of insulin.

6. What caused you to decide to resume drawing your own insulin?

(Continued on page 18)

(Continued from page 17)

I have always been independent and was determined to self-manage my diabetes. When I started losing my vision, I didn't know any blind diabetics so I could not ask questions. The medical professionals that I knew when I first became blind didn't think that a blind person could do very much by him/herself, especially draw insulin and monitor blood glucose levels. And, I knew no rehabilitation staff members.

As soon as I found out that they were available, I decided to use insulin gauges. There were several gauges on the market. I experimented with one after another, but eventually I designed my own gauge and had it custom-made. Our Diabetics Division of the NFB has a resource list of aids and appliances, which lists different products available for the blind diabetic.

7. What other questions did you have as a blind person relating to the management of your diabetes?

I, as many other blind diabetics that I have come in contact with, wondered how I would be able to draw my own insulin if I was blind. When I was in the hospital undergoing my last eye surgery, no doctor or nurse told me anything about there being gauges available so that I could draw my own insulin. I'm sure they didn't because they probably didn't know that such gauges existed, and assumed that a blind person would not be able to handle such a task, regardless. When I converse with health care professionals, they often fail to realize that blind diabetics can and do self-manage their own disease.

At that time, I did not realize that there were a couple of companies that produced blood glucose monitoring instruments with voice outputs. I began to hear more and more about the importance of testing blood sugar levels, so I now test my blood sugar levels by using a glucometer with audio output.

Blood glucose testing is by far the best method to keep diabetes in check. Urine-sugar testing is important, but especially so when the diabetic is ill. Illness often causes a rise in blood sugar, which requires extra insulin.

Now, I have no problem managing my diabetes and keeping it in good control. I accomplish this through alternative techniques which many members of our organization, the National Federation of the Blind, use daily to live active, productive lives. There are many techniques that, with training and opportunity, can be utilized by the blind diabetic and enable him/her to be just as productive as they were when they were sighted.

This publication is being read by thousands of diabetics and health care professionals. Come to us and ask for assistance. We are ready, willing, and able to help. Let me close with the statement I often make. We in the NFB know that blindness is not synonymous with inability.

What You Always Wanted to Know But Didn't Know Where to Ask (Resource List)

(Inclusion of materials in this publication is for information only and does not imply endorsement by the Diabetics Division of NFB.)

Blood Glucose Monitors with Audio Output by Ed Bryant

I have evaluated several blood glucose monitoring systems with audio output and following are my findings: There is no one blood glucose monitor that is ideal for everyone. What one person is comfortable in using, the next person may not be. If you are a blind diabetic and want to purchase an audio output glucose meter, then you should have a distributor demonstrate one for you.

Digi-Voice Module: Science Products, Box A, Southeastern, PA 19399; phone toll-free: 1-800-888-7400; In Pennsylvania (215) 296-2111.

The Digi-Voice costs \$420 plus shipping. A cassette tape explaining the Digi-Voice operations accompanies each unit.

The tape which explains the Digi-Voice operation is good. However, I find that the tape produced by Science Products, which explains the operation of different monitoring systems, is not well done. The tape which explains the Diascan-S Meter will be superior to others I have reviewed.

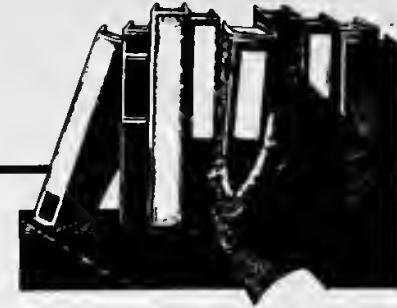
The Digi-Voice is not a blood glucose monitor. It is a separate unit with a synthetic chip which gives it voice output. The Digi-Voice and the different monitors are attached by a patch cord. The unit is easy to operate, and the speech is easy to understand.

Literature from Science Products, Inc., states that the Digi-Voice can be used with the Lifescan One Touch, the GlucoScan3000, the Ames Glucometer-M and the Diascan-S. The Digi-Voice Module for the Diascan-S Meter cannot be purchased from Science Products. Please refer to the Diascan-S evaluation.

The manufacturer claims that each unit is hand crafted and is superior to their past units because the Digi-Voice Module and glucose monitor are separate units. If the Digi-Voice breaks down, the consumer would still have his/her monitor and with assistance could continue testing blood glucose levels until a replacement Digi-Voice Module arrived.

Note: Blood glucose monitors must be purchased separately from the Digi-Voice Module. Monitors may be purchased from Science Products, except the Diascan-S Meter, but consumers may want to purchase them from a private distributor.

I have personally tested the Digi-Voice with two different monitors and found it very easy to use.



The Diascan-S Meter: Home Diagnostics, Inc., 6 Industrial Way West, Eatontown, NJ 07724; phone toll-free: 1-800-342-7226; in New Jersey, (201) 542-7788.

The suggested selling price for the Diascan-S and the Digi-Voice units together is \$635. The cost for each Diascan Dual Pad Test Strip is about 58 cents.

Currently, I and the Diabetics Division of NFB are working with Home Diagnostics in producing a cassette tape so that blind diabetics can independently use the Diascan-S Meter. A cassette tape will soon accompany each unit. Note: Home Diagnostics Distributors are trained to spend one-half hour with new customers showing them how to use the Diascan-S Meter.

This monitoring system is by far the best that I have tested. Its greatest asset is that you do not have to have a drop of blood on the test strip. The blood can be smeared on the pad and the reading will still be accurate. All other glucose monitors must have a drop of blood on the test strip pad before a good reading can be obtained.

As I mentioned earlier, the Digi-Voice for the Diascan-S must be purchased from Home Diagnostics or one of their distributors.

(Continued on page 19)



Make Your Voice Heard

★ *Voice of the Diabetic* is read by over 35,000 people who want to stay on top of diabetes. And if you have products or services to offer, you have something to say to them!

★ Reach your audience in a publication where people are looking for helpful advice and information. Place your name and services where they should be — in front of an audience who's listening.

★ Your voice reaches markets interested in all aspects of diabetes. Our national circulation includes an audience of people with diabetes, libraries for the blind, health professionals, rehabilitation and diabetes treatment centers and over 7,000 hospitals. You can reach all of them, in just one publication.

★ Advertise in *Voice of the Diabetic*. We'll make your voice heard, loud and clear.

★ To place an ad with cost-effective rates, contact Ed Bryant, Editor, *Voice of the Diabetic*, 811 Cherry St., Suite 306, Columbia, MO 65201; (314) 875-8911.

★ * *Voice of the Diabetic* reserves the right to reject any ad, and all products advertised must carry an unconditional money-back guarantee.



(Continued from page 18)

The monitor is mounted on a leather wallet for protection. When the wallet is open, a patch cord attaches the Diascan-S and Digi-Voice.

Lifescan One Touch: Lifescan, Inc., 2443 Wyandotte St., Mountain View, CA 94043-23312; phone toll-free: 1-800-227-8862; in Canada, 1-800-663-5521.

Science Products charges \$199 for the One Touch and \$420 for the Digi-Voice Meter, plus shipping. The cost for each Lifescan Glucoscan Test Strip is about 58 cents.

I have tested this system and found the One Touch to be fairly easy to use but not nearly as easy as the Diascan-S. Sometimes I had trouble getting a large enough drop of blood onto the correct spot on the test strip pad. Also, if you bleed very much, blood will probably cover part of your meter. Blood can, of course, be cleaned up, but it can be a bit messy.

The One Touch Meter and Digi-Voice Module may be purchased from Science Products. You might want to check with your nearest One Touch distributor to see what they charge for the One Touch Meter.

There is not a good cassette tape available for blind people to independently learn how to use the One Touch. There is only an introductory sales tape which was developed for the general public, but not specifically for the blind.

Accu-Chek II Freedom System: Boehringer Mannheim Diagnostics, Inc.; phone toll-free: 1-800-428-5074.

The Accu-Chek II Freedom System uses Chem Strip BG Test Strips. The cost is about 50 cents per strip. I was told the cost for the monitor will be around \$700.

As of December 1988, this monitor had not been approved by the Food and Drug Administration. A Boehringer Mannheim home office representative told me that they hoped for their new monitor to be approved by the FDA in January 1989.

The monitor has a finger guide which assists the user in getting a drop of blood onto the test strip pad. Once a drop of blood is on the pad, the machine says, "start the timer."

I have reviewed the cassette tape from Boehringer Mannheim, which is well done. It explains how to use the monitor and is easy to understand. I was told that the only distributors who will sell this system will receive special training.

The dimensions are approximately 12" x 12" x 7", and it weighs 10 to 12 pounds. The weight and size of the monitor may be a problem for some, as it will be like carrying a small briefcase.

Getting a drop of blood on the test pad and in the right place is the one difficulty that blind consumers have in using blood glucose monitoring systems. If the new system from Boehringer Mannheim is as easy to use as it sounds, then it will be really great.

BelaScan Audio Meter with Electronic Voice: Orange Medical Instruments, 3183 Airway Ave., Suite F, Costa

Mesa, CA 92626; phone toll-free: 1-800-527-1151; in California, (714) 641-5836.

The BetaScan uses Trend Strip Test Strips which cost about 58 cents per strip. Orange Medical Instruments' suggested selling price for the BetaScan is \$610. This should include a kit with all needed accessories.

I have never used this monitor but know people who have. It is like all systems—some like it and some don't. There is no instructional cassette tape for the BetaScan.

Several years back, an Orange Medical distributor representative showed me a BetaScan Meter. Unfortunately, he forgot to bring test strips with him so I could not test the unit. He did show me a strip guide (finger guide), the device that is supposed to help the blind diabetic in getting a drop of blood onto the test strip pad. The device was poorly constructed and would have been difficult to use. The sales representative confirmed my observation.

I telephoned Orange Medical Instruments on Tuesday, Nov. 22, 1988, and asked about the strip guide. The person I talked to said that she didn't know if the current strip guide was new or not.

Glucoscheck S.C. Monitor with Electronic Tones: EquiMed Medical Products, Inc., 2800 Rockcreek Parkway, Suite 500, North Kansas City, MO 64117; phone: (816) 842-1555.

The regular price with accessories is \$479.95. If you order the Glucoscheck S.C. Monitor from EquiMed Medical Products and you state that you heard about it from the NFB, then the cost is \$399.95. If you deal with an EquiMed distributor, then they set their own price and probably will not give you a discount. The monitor uses the Chem Strip BG Test Strips which cost about 50 cents per strip. A cassette tape accompanies each monitor sold, but it is not a quality tape, as it does not very well explain how to use the system.

In the last issue of *The Voice*, I stated that I was less than happy with the technical performance of the meter and that EquiMed Medical Products had been less than professional in their dealings with me.

Around mid-June, 1988, I attempted telephoning Ron Fugate, President of EquiMed Medical Products, Inc. The receptionist said he was out and would call me back. I was preparing to attend the annual convention of the National Federation of the Blind where I would visit with literally hundreds of blind diabetics. I wanted literature about the Glucoscheck S.C. Monitor for distribution to interested persons.

I was also having minor problems with my Glucoscheck S.C. and needed assistance.

After several days, Ron Fugate had not returned my call so I again called EquiMed. I learned that there had been a complete turnover in staff and they no longer employed a nurse educator or the sales representative who I had originally dealt with.

The receptionist apologized and gave me Ron Fugate's home phone number. I telephoned and talked to his answering machine. I explained what I wanted and asked that he please return my call—he never did. After a few days, I

again phoned EquiMed and was told that Mr. Fugate was out. He was to return my call, but never did.

These events picture a dim view of professionalism. I could not get answers about the performance of the Glucoscheck S.C. Monitor and the company was not professional enough to send me literature which probably would have resulted in sales.

When I first dealt with EquiMed Medical Products, they had an address in Kansas with a toll-free number. They relocated and didn't bother letting me know. In the meantime, I had several people who were interested in their product and I was giving out the wrong address and phone number. When you call the old toll-free number, a recording says, "The 800 number you have dialed has been disconnected. No further information is available about this number."

Several weeks later, I telephoned EquiMed Medical Products in a last attempt to receive literature for a seminar. I then found out that Ron Fugate was no longer with the EquiMed company.

The new manager apologized for the problems I had had and said that she would rush literature about the Glucoscheck S.C. to me. When I received the literature, I found to my dismay that the address shown was for the old location in Kansas and gave the disconnected toll-free number.

In summary, the Glucoscheck S.C. Monitor is the most economical on today's market. I can use the monitor with no difficulty and know other blind diabetics who can do likewise. The blind consumer will save money with this device, but might or might not be able to use it and might or might not receive professional service. The price includes a \$30 payment to the health professional who demonstrates use of the monitor to the purchaser.

I do not recommend purchase of the Glucoscheck S.C. Monitor. This is my opinion based on my dealings with EquiMed Medical Products.

Braille Food Exchange List

New exchange list for meal planning: We have available in braille the new "Exchange List for Meal Planning" (83 braille-written pages bound in a nice durable plastic cover). This revision, the first in 10 years, is the result of a joint effort of the American Diabetes Association and the American Dietetic Association and reflects today's food values and eating patterns. It continues to restrict fat but emphasizes high carbohydrate and fiber foods. Nutritive values have been increased in such foods as fruits, milk products and carbohydrate/starch exchanges. New additions include a list of free foods, exchange values of combination foods, and a list of foods for occasional use. There is also a glossary of nutritional terms and an index of foods.

The price for the braille "Exchange List for Meal Planning" is \$15.00. Make checks payable to National Federation of the Blind and order from Karen Mayry, Diabetics Division of NFB, 919 Main Street, Suite 15, Rapid City, SD 57701; telephone: (605) 348-8418.

Resource List

The Diabetics Division of the National Federation of the Blind produces a resource list of aids and appliances for the blind diabetic. For a copy of the resource listing in braille, send \$2; cassette \$1. For a free print version, send a self-addressed stamped envelope. Make checks payable to National Federation of the Blind and send to: Martha LaQue, 284 Caddo St., San Antonio, TX 78211; phone: (512) 927-3882.

Print

What Does it Feel Like to Have Diabetes: A Diary of Events in the Life of a Diabetic, by Denise J. Bradley. The front cover of this book states in part, "This first-person narrative delves extensively into the emotional impact of living with diabetes and its complications, to offer encouragement to other diabetics and their families." The price is \$29.50. Visa or MasterCard accepted. Order from Charles C. Thomas, Publisher, 2600 South First St., Springfield, IL 62794-9265 or call toll-free 1-800-284-0202.

Note: The following books were listed in the 1988 issue of *Diabetes Dateline*, published by the National Diabetes Information Clearinghouse.

Balance Your Act, by Maria Alogna, R.N., M.P.H., and Nancy Hull. The description says in part that the book focuses on the basic components of diabetes management for adults. The price is \$3.95. Order from Pritchett & Hull Association Inc., Suite 110, 3440 Oakcliff Rd., N.E., Atlanta, GA 30340; or call toll-free: 1-800-241-4925.

Diabetes Dateline states, "Diabetes Contents, a new publication of the British Diabetic Association, features the contents pages of all English-language diabetes journals and citations from other professional journals that carry diabetes-related articles." Subscription costs available from Joan Miller, BDA, 10 Queen Anne St., London W1M 0BD, England.





Tidbits And Humor

(Note: The humor used in this column comes from Presidential Release, No. 141. Presidential Releases are recorded and sent monthly to all NFB chapters and other leadership persons. These releases update and give pertinent data about issues that affect blind people. Traditionally, these releases end with a little humor.)

Q: What is the meaning of dilate?
A: That's what happens to patients who live longer than expected.

Q: What is the meaning of barium?
A: That's what you do with patients after they dilate.

Spread the Word

We offer anyone a free copy(s), print and/or cassette, of *Voice of the Diabetic*. Tapes are recorded at 15/16 ips. Volumes of information about blindness and diabetes are disseminated.

For your free copy(s) contact: *Voice of the Diabetic*, 811 Cherry St., Suite 306, Columbia, MO 65201; phone: (314) 875-8911.

Hear Ye Hear Ye A Raffle

The Diabetics Division of the National Federation of the Blind (NFB) reaches out and provides support and information to many people. This valuable networking costs money, such as the production cost for *Voice of the Diabetic*, and we must generate funds to help cover these costs.

Our Diabetics Division board has elected to hold a raffle which will be coordinated by the capable Bill Parker. The grand prize will be \$300.00 and the winner's name will be drawn at this year's annual convention of the National Federation of the Blind on Saturday, July 8, 1989, in Denver, CO. The cost of each raffle ticket is one dollar, or a book of six may be purchased for five dollars.

Tickets may be purchased from state representatives of our Diabetics Division or contact raffle chairman Bill Parker, 4601 Mayflower Road, Apt. 61, Norfolk, VA 23508; phone: (804) 623-1638. Orders may also be placed through our editorial office: *Voice of the Diabetic*, 811 Cherry Street, Suite 306, Columbia, MO 65201; phone: (314) 875-8911.

Please make all tax deductible checks payable to National Federation of the Blind. This raffle is open to everyone and raffle participants need not be present at the drawing to win.

Americans

At this time of the year, people tend to think of their relations with their fellow man, particularly their relations with minority groups. But most Americans do not think of the blind as a minority with all the problems, hopes and dreams which that implies.

However, the blind are a minority, not only in numbers, but in social acceptance. This is why we have formed the National Federation of the Blind, to increase public understanding and to bring opportunity and first class citizenship to the blind. One out of every 500 of the total population is blind, and there is probably a chapter of The National Federation of the Blind in your locality.

For further information about our aims and programs or about blindness, write Mr. Marc Maurer, President, National Federation of the Blind, 1800 Johnson St., Baltimore, MD 21230; phone: (301) 659-9314 or contact your local federation chapter.

If you see our literature in the mail or meet one of us, remember that the National Federation of the Blind is a nationwide organization of blind people and that all our officers and members work on a volunteer basis to better the lives of the blind.

Tape Players

When people become blind they usually need to use alternative techniques in order to keep up with printed literature. These people can receive a free tape player, which is provided by the Library of Congress. Most tapes are recorded at 15/16 ips, and a special player is needed. These tape players are mailed to the blind as free matter for the blind.

Anyone is eligible if they are "unable to read or use standard printed materials as a result of temporary or permanent visual or physical limitations."

For service, people should call their regional Library for the Blind and Physically Handicapped. Most public libraries can provide this number, or contact the National Library Service for the Blind (part of the Library of Congress); phone toll-free: 1-800-424-8567; in Washington, D.C. (202) 287-5100.

Braille Calendars

The American Brotherhood for the Blind is offering, free-of-charge, an attractive 1989 calendar in braille. Just write to the American Brotherhood for the Blind, 1800 Johnson St., Baltimore, MD 21230.

Q: What is an artery?

A: A place where you may buy paintings and sculptures.

State Coordinators

Our division is expanding rapidly and we need someone from each state who will help coordinate or be in charge to assure that all activities run smoothly. If interested in coordinating division activities in your state, please contact our Diabetics Division President, Karen Mayry, 919 Main St., Suite 15, Rapid City, SD 57701; phone: (605) 348-8418.

New Committee

There is a new NFB Diabetics Committee. It is the Diabetics Committee of NFB of Virginia. The committee was organized in April 1988 at the state convention of the NFB of Virginia.

Charles Brown, president of our Virginia affiliate, appointed Bill Parker as chairman of the committee. Bill is a leader who plans to get things done and plans to serve many blind diabetics.

Bill is also our Diabetics Division National Chairman of the Sexual Dysfunction/Male Impotence Committee. Keep up the good work, Bill.

Extra Voices

We sell newsletters in groups of five for \$3.00. Please make your check or money order payable to National Federation of the Blind. Send your order to: *Voice of the Diabetic*, 811 Cherry St., Suite 306, Columbia, MO 65201; phone: (314) 875-8911.

Subscription/Donation/Membership Form

Although the \$2.00 annual membership fee of the Diabetics Division of the National Federation of the Blind (NFB) entitles you to a year's subscription to *Voice of the Diabetic*, production cost per annual subscription of the *Voice* is about \$8.00. For this reason, we must charge all non-members, health professionals and institutions \$8.00 for an annual subscription. Of course, all donations are accepted and very much appreciated.

If you wish to become a member of the Diabetics Division of NFB, and receive a free subscription, subscribe as a non-member, or make a donation to the Diabetics Division of NFB, please check the appropriate box or boxes below:

I would like to become a member of the Diabetics Division of the NFB and receive a free subscription to *Voice of the Diabetic*:
 in print on cassette tape* both in print and on cassette tape* (\$2.00)

*Cassette tapes are provided to the blind at no extra cost.

I am a non-member or health professional who would like to receive *Voice of the Diabetic*.
 (Also institutional rate) (\$8.00)

I would like to make a tax-deductible contribution of \$ _____ to the Diabetics Division of the NFB.
 Please print clearly.

Name _____

Address _____

City _____

State _____

Zip _____

Telephone Number (_____) _____

Send this form or a facsimile along with your check to our editor:

Ed Bryant, 811 Cherry St., Suite 306, Columbia, MO 65201

Please make all checks payable to the NATIONAL FEDERATION OF THE BLIND.